



DIRECCIÓN DE NUEVAS CREACIONES
PRESENTACIÓN DE OPOSICIÓN

1. Oposición a solicitud de:

- ☒ Patente de invención
☐ Registro de Diseño Industrial
☐ Patente de Modelo de Utilidad
☐ Esquema de Trazado de Circuitos Integrados

Número de expediente: 11 144.799

Solicitante: ABBOTT LABORATORIES

Apoderado: ALICIA LLOREDA RICAURTE

Título de la Nueva Creación: EMULSIONES NUTRICIONALES CON UN CONTENIDO ELEVADO DE FIBRA

Gaceta: 645

2. Datos del Opositor

☐ Persona Natural ☒ Persona Jurídica

PROCAPS S.A.

Nombre o denominación /Razón social completa

WALTER TANAKA TATEKAWA

Nombre del representante legal

Documento de identificación: C.C. ☐ C.E. ☐ NIT ☒ Otro ☐Cuál _____

Número 890106527-5 _____

Dirección: CALLE 80 78B 201 _____ Ciudad BARRANQUILLA

Teléfono 055 3719900 Fax: _____ Correo electrónico _____

☒ Autorizo expresamente a la Superintendencia de Industria y Comercio para que todas las comunicaciones sean enviadas a través de la dirección de correo electrónico

3. Datos del representante o apoderado:

MORENO BOHORQUEZ ELIANA ISaura

51.975.664

83823

Apellidos y Nombre

Documento de identificación

Tarjeta profesional

Dirección del representante

CRA 13 119-95 OFICINA 104

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Número telefónico
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En caso de haber presentado poder general para asuntos que se adelanten ante la Delegatura de Propiedad Industrial, sírvase indicar el número de su radicación o protocolo de poder general:

4. Fundamentos de la oposición

Causal: Art14, 16, 18,20 y 30 de la decisión 486 de la CAN no cumple con los requisitos De patentabilidad.

Justificación: La presente solicitud no cumple con los requisitos de patentabilidad dado que lo revelado, ya se encontraba en el estado de la técnica o es posible derivarlo de la misma tal y como se demostrará en el capítulo "fundamento de hecho".

Prórroga:

SI

☐

NO

☐

5. Anexos

- ☒ Comprobante de pago de la tasa.
- ☒ Poder, si fuera el caso.
- ☒ Fundamentos de la oposición. Se anexan 8 folios (obligatorios indicar cuántos).
- ☒ Anexo de fundamentos de la oposición. Se anexan 13 folios (obligatorios indicar cuántos)
- ☒ Copias para traslado.
- ☐ Copia de la solicitud y sus anexos en formato magnético.

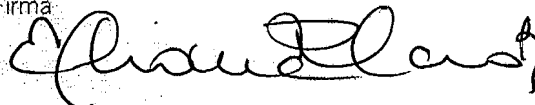
6. Firma

Nombre del Firmante

ELIANA ISAUARA MORENO ROHORQUEZ

CC. 51.975.664

Firma



Tarjeta Profesional: 83823



RECIBO DE CAJA

No. 12 - 0083454

Bogotá D.C., Agosto 15 de 2012 - 08:10:31

RECIBIDO DE : PROCAPS S.A.

NI 890.106.527

*** Soporte del Pago ***

TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	VR. PAGO
CONSIGNACION	BANCO DE BOGOTA	062754387	132583953	14/08/2012	1.575.000.00

*** Conceptos Pagados ***

CANT.	RENTISTICO	CONCEPTO	Vr.UNDITARIO	Vr.CONCEPTO
1	50005-01-04	PRESENTACION DE OBSERVACIONES A SOLICITUDES	12	MARCAS Y LEMAS COMERCIALES
			315.000.00	315.000.00
				\$315.000.00
				=====

SON: **TRESCIENTOSQUINCE MIL PESOS MONEDA CORRIENTE**

Responsable: _____

Recibo de Caja Aplicado al Expediente No. _____

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 11-144799- -00005-0000

Fecha: 2012-08-15 08:47:45 Dep. 2020 DIR.NUEVASCR
Tra. 11 PATENTEIYII Eve: 379 FASENACIONALII
Act. 400 OPOSIOBSERVTER Folios: 34

Sede Centro: Carrera 13 No. 27 - 00 Pisos 3,4,5 y 10 Bogotá, D.C.- Colombia

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, Agosto 15 de 2012 - 08:10:31

Señor Director,
DIRECCIÓN DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

Referencia : Expediente N° 11 144799
Asunto : Oposición a la solicitud de patente de Invención titulada
"EMULSIONES NUTRICIONALES CON UN
CONTENIDO ELEVADO DE FIBRA"
Solicitante : ABBOTT LABORATORIES
Opositora : PROCAPS S.A.

Publicada en la Gaceta de la Propiedad Industrial
N° 645 del 31 de mayo de 2012

Yo, **ELIANA ISaura MORENO BOHORQUEZ**, abogada en ejercicio, identificada como aparece al pie de su firma, con tarjeta profesional N°. 83823 del Consejo Superior de la Judicatura, en mi condición de apoderada de la sociedad **PROCAPS S.A.** conformada bajo las leyes de la República de Colombia, atentamente manifiesto que estando dentro del término de ley y por orden expresa de mi representada, presento oposición a la concesión del registro de la Patente de Invención titulada "**EMULSIONES NUTRICIONALES CON UN CONTENIDO ELEVADO DE FIBRA**", cuyo titular es **ABBOTT LABORATORIES**, y pido a Usted declarar fundada esta oposición y en consecuencia negar el registro de la patente solicitada.

1. INTERÉS PARA ACTUAR

Conforme a lo dispuesto en el artículo 42 de la Decisión 486 de 2000 de la CAN, estando dentro del término estipulado por la ley, manifiesto el legítimo interés de nuestra representada para oponerse al registro de la patente de la referencia, atendiendo a que la solicitud pretendida no cumple con los requisitos dispuestos en la ley como se analizará más adelante y de ser concedida afectaría directamente la comercialización de algunos productos de mi representada, que contienen, en particular **FIBRA DIETETICA**. Por lo tanto, solicito respetuosamente a ese Despacho se sirva tener en cuenta la presente oposición dentro del trámite administrativo que se surte en esta Superintendencia.

2. FUNDAMENTOS DE HECHOS

2.1. La solicitud objeto de la presente fue presentada el 26 de octubre de 2011, reivindicando prioridad bajo la solicitud US20090169022 del 2009-04-14; y fue publicada en Colombia, en la Gaceta de la Propiedad Industrial N° 645 del 31 de mayo de 2012, cuya publicación internacional corresponde a la WO2010120734 del 2010-10-21.

2.2. La solicitud colombiana 11 144799 objeto de la presente oposición, se refiere a Emulsiones nutricionales acuosas que presentan un contenido elevado de fibra. Estas emulsiones comprenden grasas, proteínas e hidratos de carbono e incluyen entre aproximadamente 1,75% y aproximadamente 4,0% en peso de un aceite de

diacilglicerol y entre aproximadamente 1,5% y aproximadamente 9,0% en peso de fibra. Estas emulsiones también pueden comprender grasas, proteínas e hidratos de carbono y pueden incluir entre aproximadamente 1% y aproximadamente 4,0% de un aceite de diacilglicerol, con relación al peso de las emulsiones acuosas, y entre aproximadamente 2,0% y aproximadamente 9,0% de fibra, con relación al peso de las emulsiones acuosas, donde las emulsiones acuosas presentan una viscosidad menor que aproximadamente 300 centipoise a 20°C. Estas emulsiones con un contenido elevado de fibra presentan características beneficiosas, que incluyen una estabilidad mejorada, propiedades sensoriales deseables, una reología favorable y un desempeño mejorado, que abarca un perfil modulado en la respuesta glucémica y/o una intolerancia gastrointestinal mínima o nula.

2.3. Ahora bien, con base en el artículo 14 de la Decisión 486 de la CAN consagra lo siguiente: *"Los países miembros otorgarán patentes para las invenciones, sean de producto o procedimiento, en todos los campos de la tecnología, siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial"*. Así las cosas, las invenciones objeto de patente deben ser nuevas y tener nivel inventivo. Bien, pues antes de la fecha de prioridad de esta solicitud se encuentran los siguientes documentos que afecta la patentabilidad de la presente solicitud:

- D1: EP1665940 publicada el 07 de junio de 2006.

2.4. Ahora bien, el documento D1, se refiere a un alimento de dieta que tiene efectos de reducir el peso corporal y prevenir / mejorar la obesidad y trastornos ateroscleróticos o metabólicos e incluye un E-3 PUFA o un AGPI E-6, y al menos uno de L-arginina, L-ornitina, un precursor de L-arginina, uno de L-ornitina, e

incluye además diacilglicerol, un ácido graso de cadena media o corta, un fitosterol, un núcleo-base, un nucleósido, un ácido nucleico, dextrina, diversas vitaminas, minerales o materiales probióticos. De forma particular dicho documento D1 revela una composición que puede ser líquido (solución acuosa) y comprende proteína, carbohidratos, aceite diacilglicerol y fibras como fibra aniónica soluble y fibra neutral soluble, donde la emulsión enpackada tiene una viscosidad de menos de 300 cps. En una modalidad de las composiciones presentes en el documento D1, la composición comprende lípidos y fuentes de proteína.

2.5. Por lo tanto, teniendo en cuenta el documento D1, la solicitud objeto de la presente oposición carece evidentemente de NOVEDAD.

2.6. En consecuencia y de acuerdo a lo descrito anteriormente, se deriva que la solicitud colombiana 11 144799 no puede pretender un monopolio por patente toda vez que lo que pretende no cumple con el más importante de los tres requisitos necesarios para su protección, la Novedad.

2.7. Que por consiguiente, respecto a la solicitud pretendida se tiene que:

2.7.1. **CARECE DE NOVEDAD:** Según la decisión 486 de la Comunidad Andina de Naciones, Artículo 16.- *“Una invención se considerará nueva cuando no está comprendida en el estado de la técnica. El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o, en su caso, de la prioridad reconocida.”*. A la fecha de prioridad, 14 de abril de 2009 ya era conocido, pues como se demostró, eran parte del arte anterior con base en el documento D1, emulsiones nutricionales acuosas que

presentan un contenido elevado de fibra. Estas emulsiones comprenden grasas, proteínas e hidratos de carbono e incluyen entre aproximadamente 1,75% y aproximadamente 4,0% en peso de un aceite de diacilglicerol y entre aproximadamente 1,5% y aproximadamente 9,0% en peso de fibra; sobre lo cual busca protección en el capítulo reivindicatorio.

2.8. Dado lo anterior, es posible deducir que la solicitud y lo reivindicado no es objeto de patentabilidad pues es contrario a lo que dicta la Decisión 486 de la Comunidad Andina de Naciones, Artículo 14.- *“Los Países Miembros otorgarán patentes para las invenciones, sean de producto o de procedimiento, en todos los campos de la tecnología, siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial.”*. La solicitud pretendida no cumple con el más importante de los tres requisitos de patentabilidad, la Novedad.

2.9. Por todo lo anterior, atentamente solicito a usted que se sirva declarar fundada ***“EMULSIONES NUTRICIONALES CON UN CONTENIDO ELEVADO DE FIBRA”***, cuyo titular es **ABBOTT LABORATORIES**, solicitud Colombiana que apareció publicada en la Gaceta de la Propiedad Industrial N° 645 del 31 de mayo de 2012.

3. PRUEBAS

De conformidad con lo dispuesto por las normas vigentes, solicito a usted tener como prueba en este asunto los siguientes:

- D1: EP1665940 publicada el 07 de junio de 2006.

4. FUNDAMENTO DE DERECHO

Fundamento esta observación en las normas legales siguientes:

- 4.1. Numeral 1 del artículo 586 del Código de Comercio.
- 4.2. Artículo 42 de la Decisión 486 de la Comisión del Acuerdo de Cartagena.
- 4.3. En las demás normas concordantes.

5. ANEXOS

Para los efectos correspondientes anexo al presente escrito los siguientes documentos:

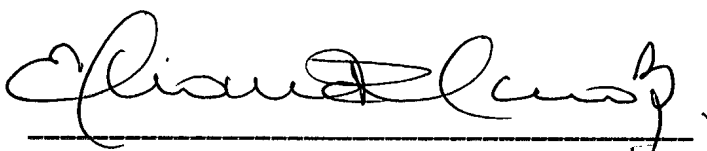
1. Poder para actuar en el presente.
2. Documento que acredita al representante legal de **PROCAPS S.A.**
3. Recibo de caja del respectivo pago de tasa.
4. Copias de los documentos:

- D1: EP1665940 publicada el 07 de junio de 2006.

6. NOTIFICACIONES

Para efectos de notificaciones que por disposición del artículo 50 del Decreto 01 de 1984 debe hacer su Despacho, informo que mi representada y la suscrita recibiremos notificaciones en la Secretaría de su Despacho o en mis oficinas situadas en la Carrera 13 N° 119-95, Of. 104 de esta ciudad de Bogotá.

Señor director,



ELIANA ISAURA MORENO BOHORQUEZ

C.C. 51'975.664 de Bogotá

T.P.A. 83823 del C.S. de la J.

ANEXO 1



(12)

EUROPEAN PATENT APPLICATION

published in accordance with Art. 158(3) EPC

- (43) Date of publication:

07.06.2006 Bulletin 2006/23
- (51) Int Cl.:

A23L 1/307^(1985.01) A23L 1/30^(1968.09)
A23L 1/305^(1985.01)

(21) Application number:

04772695.5

(86) International application number:

PCT/JP2004/012741

(22) Date of filing:

02.09.2004

(87) International publication number:

WO 2005/023021 (17.03.2005 Gazette 2005/11)
- | | |
|---|---|
| <div>(84) Designated Contracting States:</div> <div>DE FR GB IT</div> | <div>(72) Inventor: KOIDE, Masafumi</div> <div>4680051 (JP)</div> |
| <div>(30) Priority: 02.09.2003 JP 2003309966</div> | <div>(74) Representative: Zinnecker, Armin et al</div> <div>Lorenz Seidler Gossel</div> <div>Rechtsanwälte -Patentanwälte</div> <div>Widenmayerstrasse 23</div> <div>80538 München (DE)</div> |
| <div>(71) Applicant: BBK Bio Corporation</div> <div>Tokyo 102-0083 (JP)</div> | |
- (54)

DIET FOOD
- (57)

The diet food of this invention having effects to reduce body weight and prevent/improve obesity and atherosclerotic or metabolic disorders includes an ω -3 PUFA or an ω -6 PUFA, and at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine pre-

cursor, and further includes diacylglycerol, a middle or short chain fatty acid, a phytosterol, a nucleo-base, a nucleoside, a nucleic acid, dextrin, various vitamins, various minerals or a probiotics material.
- :P 1 665 940 A1

Description

Technical Field

[0001] The present invention relates to a diet food having effects to reduce body weight and prevent/improve obesity and adult diseases, i.e., cardiovascular disorders, diabetes and hyperlipidemia, namely DIET.

Background Art

[0002] Recently, there are increasing cases where diatheses of obesity, hyperlipemia, diabetes and hypertension are factors to affect or aggravate various diseases arising from a variety of circulatory or metabolic disorders. Specifically, although the human race originally has a genetic mechanism for coping with starvation (thrifty genes), the mechanism for coping with excessive food ingestion is merely a hypoglycemic action of insulin. However, recent problems in daily eating habits are excessive food ingestion and shortage in energy consumption, and there are demands for health care to prevent or improve obesity and arterial sclerosis, and hence, a variety of diet foods, supplements and alimentary therapies are now being earnestly studied.

[0003] On the other hand, a parenteral dietary supplement including a mixture of oils rich in ω -3 and ω -6 polyunsaturated fatty acids (PUFA) is recently disclosed. (For example, see Patent Literature 1: U. S. Patent No. 4,820,731.) The invention described in Patent Literature 1 relates to a parenteral dietary supplement using ω -3 and ω -6 PUFA for minimizing risks of an infectious disease of a postoperative patient.

[0004] Also, a dietary supplement including ω -3 oils and middle-chain triglycerides (see, for example, Patent Literature 2: U. S. Patent No. 4,871,768) and a composition for traumatic injury treatment including intact protein, arginine, carbohydrate and lipid including ω -3 fatty acids of fish oil and linoleic acid (see, for example, Patent Literature 3: U. S. Patent No. 5,053,387) are also disclosed.

[0005] Furthermore, a technique related to a liquid elemental diet including carbohydrate, amino acid and lipid components having a pH ranging from approximately 3.0 to 4.4 is also disclosed (see, for example, Patent Literature 4: U. S. Patent No. 4,414,238).

Problems to be Solved by the Invention

[0006] There is a problem that conventional simple caloric control using a supplement or alimentary therapy tends to cause a reaction of weight increase as a middle or long-term result, and a supplement added to a daily food cannot attain a sufficient effect in many cases.

[0007] Also, in conventional dieting using an extreme alimentary therapy or a special supplement, there is a case where essential nutrients for an adult cannot be sufficiently supplied, and not only a dieter feels hunger

or malaise but also it is apprehended that the dieter's health is ruined.

[0008] Furthermore, since the dietary supplements described in the aforementioned Patent Literatures are devised for effective alimentation to improve the immunological function or to accelerate postoperative recovery, the quantity of supplied energy is set to be relatively excessive as compared with human energy consumption, and therefore, such dietary supplements cannot be used for diet for slimming.

[0009] In consideration of the present circumstances where an appropriate method for coping with worldwide increasing risks of obesity and adult diseases has not been established, the present invention was devised to create a novel diet food and dieting system through comprehensive examinations of clinical scientific metabolic theories, cellular biological knowledge and daily eating habits of present-day people.

[0010] The diet food herein means a food having various cosmetic effects including weight reduction, obesity improvement and slimming; a food for preventing and improving adult diseases (lifestyle-related illnesses) including obesity, hyperlipemia, diabetes and hypertension; a food for improving the diathesis of sport athletes; or a food capable of exhibiting an antagonistic action to prevent a diathesis of obesity, hyperlipemia, diabetes or hypertension from causing or becoming an aggravation factor of any of various circulatory, metabolic or neural system disorders.

[0011] An object of the invention is providing a diet food that is highly safe for human bodies and has a very effective function to metabolize body fat and utilize combustion energy.

Disclosure of the Invention

[0012] What is principally aimed at is that calorie generated by stimulating and activating a metabolizing process for body fat and carbohydrates is used for enhancing biosynthesis of cellular nucleic acid and proteins, and tissue/cellular physiological activities, so as to effectively accelerate combustion/consumption cycles.

[0013] For this purpose, nutrient sources to be supplied to a body are redistributed in the composition of a diet food, so as to optimize a mechanism in which a dietary component functions as a catalyst-like factor for combusting endogenous fat and combustion energy immediately links at equilibrium with activation of a metabolic pathway, that is, an energy consumption system, from DNA replication and RNA synthesis to protein biosynthesis.

[0014] An effective and highly acceptable diet food for weight reduction, preventing obesity and adult diseases and its operation protocol devised based on the aforementioned novel idea not only exhibit remarkable effects in healthy people of middle and advanced age and people carrying adult diseases but also are effective for improving the diathesis of young people with fatness tendency

without ruining their health.

[0015] The present inventor has referred to the metabolic pathways of an organism from different viewpoints, and has found that a diet including a combination of arginine, an ω -3 polyunsaturated fatty acid and nucleic acids has an effect to improve lipid combustion ability of organic tissues from a side different from the immunological function, an effect to activate the cellular metabolic function and an effect to improve the function of material synthesis systems for protein and the like from DNA replication and RNA synthesis to the protein synthesis through amino acid assembly, resulting in finding ideal diet food and dieting system.

[0016] When problems of efficacies in singly using respective amino acids, polyunsaturated fatty acids (PUFA) and nucleic acids included in the aforementioned diet and the effect of the combination of arginine, PUFA and nucleic acids attained in improvement of the immunological function are considered, a diet food or a dieting system from a novel viewpoint is introduced. Specifically, metabolic cycles exhibiting an interaction that cannot be attained in single use are rotated, resulting in a dieting effect useful for weight loss of fat people, conversion of body fat into muscle tissues and improvement or prevention of adult disease diatheses.

[0017] The present inventor has earnestly studied actions on body fat of amino acid components typified by L-arginine or L-ornithine, small peptides and PUFA, and has found a synergistic effect of a lipase activating action and a cell activity increasing action through secretion of growth hormone by these amino acid components and an α -amylase inhibitor action, a lipid metabolism improving action and an antiarteriosclerotic action of the ω -PUFA, resulting in devising a highly safe diet food with a very effective lipid metabolizing action.

[0018] The first invention is DIET including an ω -3 PUFA; and at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor.

[0019] The second invention is the diet food of the first invention further including an ω -6 PUFA.

[0020] The third invention is the diet food of the first invention in which whole or part of the ω -3 PUFA is included as fish oil.

[0021] The fourth invention is the diet food of the second invention in which whole or part of the ω -3 PUFA and the ω -6 PUFA are included as fish oil.

[0022] The fifth invention is the diet food of any of the first through fourth inventions in which an intake per meal of the diet food includes 0.1 g or more and 3.5 g or less of the ω -3 PUFA and 0.6 g or more and 15 g or less of the at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor.

[0023] The sixth invention is the diet food of any of the first through fifth inventions in which the fish oil is encapsulated.

[0024] The seventh invention is DIET including at least one of diacylglycerol, a medium or short chain fatty acid and a phytosterol and at least one of L-arginine, L-orni-

thine, an L-arginine precursor and an L-ornithine precursor.

[0025] The eighth invention is the diet food of any of the first through seventh inventions further including at least one of a nucleotide, a nucleoside and a nucleic acid.

[0026] The ninth invention is the diet food of the eighth invention in which the nucleo-base is at least one of adenine, guanine, hypoxanthine, xanthine, cytosine, uracil and thymine.

[0027] The tenth invention is the diet food of the eighth invention in which the nucleoside is at least one of uridine, adenosine, guanosine, cytidine, ribothymidine, deoxyadenosine, deoxyguanosine, deoxyuridine, deoxycytidine, thymidine, inosine and xanthosine.

[0028] The eleventh invention is the diet food of the eighth invention in which the nucleic acid is at least one of DNA, RNA and polynucleotide obtained by polymerizing nucleotides.

[0029] The twelfth invention is the diet food of the eighth invention in which an intake per meal of the diet food includes 0.1 g or more and 1.5 g or less of at least one of a nucleic acid, a nucleo-base and a nucleoside.

[0030] The thirteenth invention is the diet food of any of the first through twelfth inventions further including at least one of maltodextrin, cluster dextrin, indigestible dextrin and oligosaccharide.

[0031] The fourteenth invention is the diet food of any of the first through thirteenth inventions further including at least one of a mucopolysaccharide and a uronic acid-containing polysaccharide.

[0032] The fifteenth invention is the diet food of any of the first through fourteenth inventions further including a component having an absorption suppressing action for carbohydrates and lipid.

[0033] The sixteenth invention is the diet food of any of the first through fifteenth inventions which is included in a low-calorie food of an intake per meal of 400 Kcal or less.

[0034] The seventeenth invention is the diet food of any of the first through sixteenth inventions further including yoghurt or a probiotics material derived from yoghurt.

[0035] The eighteenth invention is the diet food of any of the first through seventeenth inventions further including a water-absorbing fiber component.

[0036] The nineteenth invention is the diet food of any of the first through eighteenth inventions further including at least one of an anorectic component, a circulatory stimulating component, a lipid decomposition/consumption accelerating component and an antioxidant component.

[0037] The twentieth invention is the diet food of any of the first through nineteenth inventions further including at least one of glutamine, branched chain amino acid, vitamin A, vitamin B complex, vitamin C, vitamin D complex, vitamin E, β -carotene, linolenic acid, triglyceride linolenate, eicosapentaenoic acid, triglyceride eicosapentaenate, docosahexaenoic acid and triglyceride docosahexaenate.

[0038] The twenty-first invention is the diet food of any of the first through twentieth inventions in which active ingredients are substances derived from natural products.

[0039] The twenty-second invention is the diet food of any of the first through twenty-first inventions for use for keeping health or improving a diathesis of a fat person, a person having an adult disease like atherosclerosis or metabolic disposition or a person affected by an adult disease.

[0040] The twenty-third invention is the diet food of any of the first through twenty-second inventions for use for keeping health or improving a diathesis of a domestic animal, a fowl or a pet.

[0041] The twenty-fourth invention is a diet food composition including (A) 0.1 through 6 wt% of at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor; (B) 0.02 through 1.2 wt% of ω -3 PUFA; and (C) 0.02 through 2 wt% of nucleic acid.

[0042] The twenty-fifth invention is a liquid diet food composition including (A) 0.1 through 6 wt% of at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor; (B) 0.02 through 1.2 wt% of ω -3 PUFA; (C) 0.02 through 2 wt% of nucleic acid; (D) 1 through 7 wt% of protein or peptide; (F) 1 through 10 wt% of carbohydrate; and (G) 0.5 through 5 wt% of lipid, in which water is used as a solvent.

[0043] The twenty-sixth invention is a liquid DIET composition including (A) 0.1 through 6 wt% of at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor; (B) 0.02 through 1.2 wt% of ω -3 PUFA; (C) 0.02 through 2 wt% of nucleic acid; (D) 1 through 7 wt% of protein or peptide; (E) 1 through 10 wt% of saccharide; (F) 0.5 through 5 wt% of lipid; (G) 0.01 through 2 wt% of ginger juice; and (H) 0.3 through 10 wt% of natural fruit juice or a fruit juice-like component, in which water is used as a solvent.

[0044] In more detail, the present invention is a diet food including an ω -3 PUFA and at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor.

[0045] First, among a large number of amino acids, the arginine is cationic and unique and is easily transferred into cells. Also, polyamine obtained by linking some arginines works as a vehicle capable of transporting an exotic molecule, which cannot singly enter a cell, into a cell. Furthermore, the arginine also exhibits actions to accelerate secretion of growth hormone and glucagon and to activate biological function of lipase.

[0046] Moreover, the ornithine has a function to complement the arginine action. Accordingly, it is occasionally taken as a supplement by an athlete such as a body-builder. However, the contents of the arginine and the ornithine in general food protein are small, and it is difficult to express the arginine specific action in a body by taking general food. Furthermore, when the arginine is simply ingested, neutral fat once decomposed into glycerol and fatty acid by lipase can be easily restored to the original

form.

[0047] At this point, when an ω -3 PUFA, an ω -6 PUFA or exotic short or medium chain fatty acid is present, the neutral fat cannot be restored to the original form, and endogenous fatty acid cannot help entering a combustion metabolic pathway.

[0048] Also, when mono-glyceride or di-glyceride is present, a further higher effect can be attained. When nucleic acids are sufficiently supplied, combustion energy can be supplied to a material synthesis system, and hence, re-transformation to saccharide or fat can be prevented.

[0049] Specifically, it is devised to supply, as a diet food for reducing body weight or preventing/improving obesity and adult diseases, a food including an ω -3 PUFA, an ω -6 PUFA and a nucleic acid typified by ribonucleic acid as specific functional components.

[0050] As the theoretic ground, the arginine accelerates secretion of growth hormone and activates metabolism as well as activate biological function of lipase for fat decomposition and is an essential amino acid for synthesis of RNA and polyamine.

[0051] Also, the L-ornithine plays an effective role in effective expression of immunological functions and a liver function, and is related to synthesis and secretion of the growth hormone by a pituitary gland. Accordingly, it improves the cell metabolism and reduces fat, and hence is useful as a diet component. When the ornithine is combined with the arginine, the secretion of the growth hormone is more effectively accelerated.

[0052] On the other hand, with respect to the ω -3 PUFA or the ω -6 PUFA, arachidonic acid is a precursor of PG, eicosapentaenoic acid improves insulin action, and docosahexaenoic acid reduces low density lipoprotein and improves the activity of cerebral nerves. Also, the ω -3 or ω -6 PUFA is bonded to glycerin freed from neutral fat so as to prevent re-bonding of endogenous fatty acid and accelerate the decomposition of endogenous lipid.

[0053] Accordingly, hypertriglyceridaemia, that is, the basic diathesis of syndrome X and deadly quartet (hypertension, diabetes, hyperlipemia and obesity), can be improved. Also, in the same manner as in, for example, protein synthesis of cultured cells consuming calorie in a medium, nucleic acids including ribonucleic acid increase energy consumption required in intracellular metabolism in a process mainly from RNA assembly to protein synthesis. Energy generated through combustion of endogenous fatty acid inhibited from re-bonding to glycerin is effectively consumed in the process from the RNA assembly through recruit of amino acid to the synthesis of peptide and protein. Accordingly, excessive fat tissues are processed in the metabolic cycle, so as to exhibit a remarkable effect for weight loss and prevention of an adult disease. Furthermore, increase of protein included in muscles and the like leads to increase of basal metabolism, and hence, the dieting effect is further reinforced.

[0054] The present invention can be DIET including not only the ω -3 PUFA but also an ω -6 PUFA.

[0055] In the diet food of this invention, whole or part of the ω -3 PUFA and the ω -6 PUFA are preferably included as fish oil.

[0056] In the diet food of this invention, an intake per meal of the diet food includes 0.1 g or more and 3.5 g or less of the ω -3 PUFA and 0.6 g or more and 15 g or less of the at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor. In other words, an intake per day of the diet food includes 0.5 g or more and 10 g or less and preferably 0.6 g or more and 7 g or less of the ω -3 PUFA, and 2 g or more and 40 g or less of at least one of the L-arginine, the L-ornithine, the L-arginine precursor and the L-ornithine precursor.

[0057] In the diet food of the invention, the fish oil is encapsulated. The smell peculiar to fish oil tends to lower the intake motivation, and any of various means for reducing or eliminating smell and favoring with ginger juice or yoghurt as well as the encapsulation can be employed as an effective method for processing the smell of fish oil.

[0058] In one aspect of the invention, the diet food includes at least one of diacylglycerol, a medium or short chain fatty acid and a phytosterol and at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor.

[0059] In this invention, the diacylglycerol and the middle or short chain fatty acid have a fatness preventing action, a weight-increase suppressing action and the like. On the other hand, the phytosterol has a function to inhibit absorption of cholesterol in a process where cholesterol is dissolved in bile acid to be absorbed.

[0060] Accordingly, when either or both of them are ingested together with the arginine and ornithine, a synergistic action of the increase of the cell metabolism and the decomposition of the endogenous fat with the lipid metabolism improvement and the combustion can be attained, and since the used energy is thus increased, energy balance exceeds the critical point and is inclined to be negative, resulting in exhibiting the dieting effect. In this case, the ω -3 PUFA or the ω -6 PUFA may be used as a component of the lipid, or nucleic acid may be included in addition to the lipid, the arginine and the like so as to further enhance the dieting effect.

[0061] The diet food of this invention preferably includes a nucleic acid as purine substrate source.

[0062] Examples of the nucleic acid, purine substrate source, are natural nucleic acid substrates, nucleosides, nucleo-bases, RNA, DNA, equivalence of any of them, and/or a mixture including one or more of these compounds.

[0063] The nucleo-bases, the nucleosides and the nucleic acids are materials of an energy use system required in the intracellular metabolism in the process mainly from the RNA assembly through the DNA transcription to the protein synthesis, and in addition, they increase basal metabolism energy by the cell tissues as a middle-term result of the protein synthesis.

[0064] Accordingly, energy generated through combustion of the free fatty acid generated by activated lipase

that derived from arginine is effectively consumed in the process from the RNA assembly through the recruit of amino acid to the synthesis of peptide and protein. In other words, the nucleo-bases, the nucleosides and the nucleic acids work to link the protein synthesis function to the fat metabolizing action of the diet food of this invention including at least one of the L-arginine, the L-ornithine, the L-arginine precursor and the L-ornithine precursor, so as to bring the consumption and the effective use of excessive energy.

[0065] On the other hand, the nucleo-base is preferably at least one of adenine, guanine, hypoxanthine, xanthine, cytosine, uracil and thymine.

[0066] The nucleoside is preferably at least one of uridine, adenosine, guanosine, cytidine, ribothymidine, deoxyadenosine, deoxyguanosine, deoxyuridine, deoxycytidine, thymidine, inosine and xanthosine.

[0067] The nucleic acid is preferably at least one of DNA, RNA and polynucleotide obtained by polymerizing nucleotides.

[0068] Furthermore, in the case where the nucleic acid substrate source is in a form of a free nucleic acid substrate, uracil is preferably included. Natural nucleotides include phosphate esters of natural nucleosides, for example, monophosphate esters such as adenylate (AMP), guanylate (GMP), uridylate (UMP), cytidylate (CMP), deoxythymidylate (dTMP) and deoxycytidylate (dCMP), and diphosphate esters or triphosphate esters of natural nucleoside such as ADP and ATP.

[0069] As a purified nucleic acid substrate source, baker's or brewer's yeast RNA or fish sperm and egg DNA is preferred, and any of the other biological materials may be used as a starting source.

[0070] With respect to a dose of the nucleic acid substrate source, in the case where a dieter is an adult, when the diet food of this invention is prepared so as to attain a dose per day of the RNA or an equivalent weight of another nucleic acid substrate source of 0.2 through 4.0 g, preferably 0.3 through 3 g and most preferably 0.5 through 2 g, a response of effective salvage nucleic acid synthesis can be easily obtained.

[0071] In other words, in one aspect of the invention, an intake per meal of the diet food includes 0.1 g or more and 1.5 g or less of at least one of a nucleic acid, a nucleo-base and a nucleoside.

[0072] In consideration of the entire description above, when the appropriately mixed specific functional components including the arginine, the ω -3 PUFA, the ω -6 PUFA and the nucleic acids such as the ribonucleic acid are combined or replaced with meals mainly including general three essential nutrients of protein, lipid and carbohydrate, the diet food that functions independently of intake calorie and exhibits the effects to reduce the weight and prevent an adult disease can be obtained. Other amino acids such as lysine, proline, leucine, isoleucine and valine may be recruited or diacylglycerol, phytosterol and medium or short chain fatty acid may be combined in addition to or in place of the ω -3 or ω -6 PUFA.

[0073] In this invention, the diet food may further include at least one of maltodextrin, cluster dextrin and indigestible dextrin.

[0074] The maltodextrin, the cluster dextrin and the non-digestive dextrin obtained by processing starch with an enzyme or the like has an appropriate characteristic to ideally set the quantity of energy, the absorbing system, the taste and the like as a diet carbohydrate. In the case where glucose or sugar is simply ingested, the blood sugar is abruptly increased so as to accelerate the insulin secretion, various metabolic pathways such as protein kinase C, PI3 kinase and NO production are activated, and hence, angiopathy, obesity or an adult disease diathesis is aggravated as a medium or long-term result.

[0075] The maltodextrin, the cluster dextrin and the indigestible dextrin exhibiting characteristic digestive, absorption and metabolic patterns belong to a saccharide group capable of moderately increasing the blood sugar and planning to transfer to and use in a human body as carbohydrate. Accordingly, when the mixing ratio of the maltodextrin, the cluster dextrin or the indigestible dextrin in the present diet food is determined, a caloric intake and a dieting effect suitable for the aim can be realized.

[0076] Also, for adjusting the taste and the eating comfortableness, another natural or synthetic saccharide such as granulated sugar, sugar, trehalose or Aspartame is preferably included.

[0077] In this invention, the diet food may further include a mucopolysaccharide or a uronic acid.

[0078] The uronic acid-containing polysaccharide such as pectin, carageenan or alginic acid is a polymer that extracts moisture so as to provide a satiety feeling as food, and at the same time, has low calorie and exhibits a good performance to suppress the absorption of saccharide.

[0079] Also, hyaluronic acid provides protection and smoothness to skins and synovial tissues. Accordingly, the mixture of uronic acid in the diet food of this invention can be effective means for improving these effects. Natural materials including a large amount of uronic acid-containing polysaccharide or mucopolysaccharide, such as apples, seaweeds and yams, may be processed to be mixed.

[0080] In the present invention, the diet food may further include a component having an absorption suppressing action for saccharide and lipid.

[0081] Diet pills using a large number of natural or synthetic substances, such as yohimbine for inhibiting decomposition of fat, a compound having an absorption inhibiting action and an α -glycosidase inhibitor having a carbohydrate absorption inhibiting action, have been proposed, and a conventional type of lipid or saccharide absorption metabolism suppressing diet including *Aralia elata* of *Alariaceae*, *gymnema* extract, chitin chitosan, *galcinia*, polyphenol, catechin and the like used together is useful for reinforcing the performance of the diet food of this invention. Also, a component having an antioxidant action such as polyphenol is more preferably included.

[0082] In the present invention, the diet food may be included in a low-calorie food of an intake per meal of 400 Kcal or less, namely, a low-calorie food of an intake per day of 1200 Kcal or less.

5 [0083] The alimentary therapy for obesity through energy intake control is generally classified into a low-energy food of 1000 through 1300 Kcal, a maintenance food of 1600 through 1800 Kcal and a protein keeping/adjusting food, namely, a very low-energy food of approximately 600 Kcal in which carbohydrate and lipid are extremely reduced.

10 [0084] In order to attain a higher dieting effect, practice of calorie intake control combined with the diet food of the first invention, DIET, or the like is useful. Assuming that the basal metabolism is 24 Kcal/Kg and the kinetic energy is 300 through 500 Kcal, the maintenance energy is 1740 Kcal when the weight is 60 Kg, and a food with lower calorie is a relatively low-energy food.

15 [0085] Therefore, when three meals are composed of the diet food of the first invention taken twice a day with 500 Kcal in total and a calorie-control food of 700 through 800 Kcal taken once, the combustion energy obtained by accelerating the endogenous lipid decomposition with the merit of exogenous energy supply control is efficiently used in the protein synthesis process. Accordingly, the present invention can systematize the diet food/system capable of attaining highly effective combustion/elimination of fat tissues. In particular, differently from diet through simple calorie control and absorption inhibition, the present diet food can up regulate the energy generation, the cellular activity, the RNA synthesis and the protein synthesis even under high calorie control, and therefore, the physical strength and the health can be kept even during the dieting period.

20 [0086] In the present invention, the diet food may further include yoghurt or a probiotics material derived from yoghurt.

25 [0087] The probiotics, that is, "living microbes with properties useful for the health of humans", is useful for improving the enteral flora and maintaining the body functions healthy. Polyamines, that is, the product of yoghurt or yoghurt bacteria corresponding to typical probiotics, are known to accelerate cell protein synthesis and to have breeding activity. In other words, the yoghurt or lactic acid bacteria is a principal element as a material or a producer for producing, in the bowels, a substance useful for the human body activity.

30 [0088] Accordingly, the combination of the diet food of any of Claims 1 through 18 with yoghurt directly leads to useful means for continuously employing the diet food or system while maintaining the body functions with the action of the polyamines using the probiotics. In this case, the yoghurt or the lactic acid bacteria may be singly ingested separately from the diet food of any of Claims 1 through 18 or may be prepared to be ingested simultaneously with another diet food.

35 [0089] In the present invention, the diet food may further include a water-absorbing fiber component.

[0090] The water-absorbing fiber is known to swell within alimentary canals to provide satiety. Accordingly, when the diet food is combined with mannann, guar gum, xanthan gum or inulin, physical and psychological satiety is attained through hydrated swell within the gastrointestinal tract so as to suppress excessive appetite, and therefore, continuous acceptability against the diet food can be attained.

[0091] Also, such a substance is expected to exhibit an action to reduce absorption of dietary components such as lipid and carbohydrate. Insoluble fiber such as cellulose, hemicellulose, lignin and agar may be used for modifying the eating comfortableness.

[0092] In the present invention, the diet food may further include at least one of an anorectic component, a circulatory stimulating component, a lipid decomposition/consumption accelerating component and an antioxidant component.

[0093] An agent for inhibiting uptake of serotonin, such as fluoxetine, is attracting attention. In a large number of drugs and natural products, there are substances having an appetite suppressing effect such as peptide for reducing appetite, compounds or derivatives of carbohydrates typified by morphine for suppressing gastric movement, and mazindol, fluvoxamine and the like. Substances affecting systems?? such as leptin and adiponectin can be useful materials.

[0094] On the other hand, capsaicin, raspberry ketone, carnitine, lycopene, taurine, saponin and xanthines have a fat decomposition/consumption accelerating action for stimulating the general circulation and decomposing/combusting the body fat. Also, the antioxidant component such as polyphenol and sesamin have an action to prevent arterial sclerosis.

[0095] In the present invention, the diet food may further include at least one of glutamine, branched chain amino acid, vitamin A, vitamin B complex, vitamin C, vitamin D complex, vitamin E, β -carotene, linolenic acid, eicosapentaenoic acid, docosahexaenoic acid, triglyceride linolenate, triglyceride eicosapentaenate and triglyceride docosahexaenate.

[0096] Furthermore, examples of the vitamins to be preferably included in the composition of the invention are vitamin A, vitamin E, vitamin C, vitamin D, vitamin K, folic acid, thiamine, riboflavine, vitamin B6, vitamin B12, niacin, biotin and pantothenic acid all in a pharmacologically allowable form.

[0097] Moreover, examples of mineral elements or minor elements to be preferably included in the composition of the invention are sodium, potassium, calcium, phosphorus, magnesium, manganese, copper, zinc, iron, selenium, chromium and molybdenum all in a pharmacologically allowable form.

[0098] In particular, the composition of the invention preferably includes beta-carotene (vitamin A), vitamin E, vitamin C, thiamine, vitamin B12, selenium chloride and zinc all in a pharmacologically allowable form.

[0099] In the present invention, active ingredients of

the diet food are preferably substances substantially derived from natural products.

[0100] The present invention can be used for keeping health of or improving a diathesis of a fat person, a person having an adult disease (lifestyle-related illnesses) disposition or a person affected by an adult disease.

[0101] Furthermore, the present invention can be used for keeping health or improving a diathesis of a domestic animal, a fowl or a pet.

[0102] For improving the taste or flavor of the diet food of this invention, fruit juice of seakwaser or the like or ginger juice is useful.

[0103] The concentrations of the active ingredients in providing the food of the invention as a drink are determined in consideration of the drinking comfortableness, the taste and the flavor, and the following diet drink compositions are preferred:

[0104] The first diet drink composition includes (A) 0.1 through 6 wt% of at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor; (B) 0.02 through 1.2 wt% of ω -3 PUFA; and (C) 0.02 through 2 wt% of nucleic acid.

[0105] Another liquid diet food composition includes (A) 0.1 through 6 wt% of at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor; (B) 0.02 through 1.2 wt% of ω -3 PUFA; (C) 0.02 through 2 wt% of nucleic acid; (D) 1 through 7 wt% of protein or peptide; (F) 1 through 10 wt% of carbohydrate; and (G) 0.5 through 5 wt% of lipid, in which water is used as a solvent.

[0106] Another liquid diet food composition includes (A) 0.1 through 6 wt% of at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor; (B) 0.02 through 1.2 wt% of ω -3 PUFA; (C) 0.02 through 2 wt% of nucleic acid; (D) 1 through 7 wt% of protein or peptide; (E) 1 through 10 wt% of carbohydrate; (F) 0.5 through 5 wt% of lipid; (G) 0.01 through 2 wt% of ginger juice; and (H) 0.3 through 10 wt% of natural fruit juice or a fruit juice-like component, in which water is used as a solvent.

[0107] Functions

In the present invention, the L-arginine has not only an action to accelerate the secretion of the growth hormone for activating metabolism but also an action to improve the activity of lipase, that is, a lipolytic enzyme. The lipase improved in the activity by the L-arginine efficiently hydrolyses triglyceride stored in blood and fat cells in a body so as to release fatty acid from glycerin. On the other hand, the L-ornithine affects the synthesis and the release of the growth hormone by the hypophysis. Accordingly, when the L-ornithine is ingested, the synthesis and the release of the growth hormone is activated, the metabolism of somatic cells is improved, and material synthesis is accelerated, resulting in accelerating the decomposition/consumption of body fat.

[0108] Furthermore, eicosapentaenoic acid and docosahexaenoic acid, that is, the ω -3 PUFA, are synthesized from linolenic acid in a very small amount, and the

amount of arachidonic acid, that is, essential ω -6 PUFA, produced within a body is insufficient. The ω -3 PUFA or the ω -6 PUFA is bonded to glycerin freed from neutral fat within the body of a taker. Thus, the ω -3 PUFA or the ω -6 PUFA inhibits glycerin and endogenous fatty acid changing into triglyceride and VLDL again, so as to accelerate VLDL turnover in the blood plasma.

[0109] As a result, the VLDL is inhibited from being transferred to and stored in fat cells or arterial sclerosis nests. Accordingly, it is suitable as an acceptor of triglyceride decomposed by the arginine. Furthermore, the eicosapentaenoic acid is changed into thromboxane A3 and prevents a thrombotic disease, the docosahexaenoic acid improves the function of a nervous system, and both the acids suppress the expression of an adult disease disposition.

[0110] The ω -3 PUFA and the ω -6 PUFA included in the diet food are included in fish oil in a comparatively high ratio. The fish oil is comparatively inexpensive and is easily available, and hence is suitably added to the diet food of this invention.

[0111] In the present invention, when the fish oil included in the diet food is processed to reduce or eliminate the smell by, for example, encapsulation, the smell peculiar to the fish oil can be sealed and degradation of the fish oil through oxidation can be suppressed.

[0112] In the present invention, when diacylglycerol, phytosterol and middle or short chain fatty acid is used in addition to or in place of part of the ω -3 PUFA or ω -6 PUFA, the re-synthesis of body fat can be further suppressed. Specifically, the diacylglycerol in which two molecules of fatty acid are bonded to one molecule of glycerin is minimally re-synthesized into body fat after being absorbed into the body. Medium or short chain fatty acids having a carbon number of 8 through 10 have a higher water-soluble property than a general long or short chain fatty acid and are easily metabolized in cells. Furthermore, since the phytosterol has a property to dissolve in bile acid, it works to reduce the absorption of cholesterol.

[0113] When the arginine or the ornithine is ingested, the secretion of the growth hormone and the activation of the lipase are induced and the triglyceride is decomposed. Furthermore, dietary triglyceride is decomposed into fatty acid and glycerin and absorbed to be mixedly present with endogenous glycerin and fatty acid.

[0114] However, this decomposition process is reversible, and therefore, the fatty acids easily re-construct neutral fat together with glycerin and are disadvantageously difficult to combust/consume. When dietary diacylglycerol is combined, the neutral fat is minimally re-constructed, and the effect to combust the endogenous fatty acid is exhibited. Accordingly, owing to the presence of the diacylglycerol, the cellular stimulation and the lipase activation attained by the arginine are effectively linked with the combustion of fat and the increase of cellular metabolism. At this point, a balanced mixture of fatty acids including the ω -3 PUFA or the ω -6 PUFA is preferably exogenously supplied.

[0115] Also, a lipid group classified into cholesterol and neutral fat forms a large micelle in a blood through conjugation with apoprotein, and hence, reduction of the triglyceride is easily complemented by cholesterol. At this point, the phytosterol constructs a complex with bile acid in competition with internal cholesterol so as to enter enterohepatic circulation, but since the phytosterol is not absorbed into the body, they can suppress the absorption of the cholesterol and hence can adjust the expression level and the pattern of the apoprotein. Accordingly, when the diacylglycerol and the phytosterol are ingested in combination with the arginine and the ornithine, the obesity and the adult disease diathesis can be improved through the re-construction of the endogenous lipid and the change of the expression level of the apoprotein.

[0116] On the other hand, in the case where the endogenous lipid is preparedly adjusted by ingesting the diacylglycerol and the phytosterol, energy supply required for facilitating the cells and tissues, and body functions in the end, through the activation of the cellular metabolism attained by the arginine action is prepared, and processes for generating various functional materials are smoothly proceeded, resulting in up-regulating the basal metabolism through the increase in the tissue/cellular energetic consumption.

[0117] In the present invention, the nucleo-base, the nucleoside and the nucleic acid have the action to promote the energy consumption required in the intracellular metabolism in the process mainly from the RNA assembly to the protein synthesis. Accordingly, energy generated through the combustion of the free fatty acid inhibited from re-bonding to glycerin is effectively consumed in the process from the RNA assembly through the recruit of amino acid to the synthesis of peptide and protein.

[0118] In brief, the arginine, the ω -3 PUFA and the ω -6 PUFA, and the nucleo-base, the nucleoside or the nucleic acid together construct diet food components ideal for a obesity or a person having an adult disease disposition.

[0119] The maltodextrin, the cluster dextrin or the indigestible dextrin included in the diet food of the present invention can supplement energy of the diet food in an idealistic manner. Specifically, when such dextrin is ingested, the blood sugar level is more moderately elevated than when glucose, sucrose or fructose is ingested. Therefore, the secretion of insulin into the blood is suppressed, and the downstream metabolism pathways are not excessively activated, resulting in suppressing the advancement of arterial sclerosis, lipid metabolism degradation or obesity stimulation derived from high insulin. Accordingly, a taker of the present diet food is free from abrupt hunger or fatigue.

[0120] In this invention, examples of the mucopolysaccharide included in the diet food are chondroitin sulfate, hyaluronic acid, heparin, keratan sulfate and dermatan sulfate, and although the mucopolysaccharide is a substance sufficiently produced in a body during a human growth period, the de novo production is reduced with

ages, and hence it is significant to positively include it in a diet food. Such a mucopolysaccharide is a sticky viscous substance and is included in joints, eye balls, mucous membranes, blood vessel walls and the like to provide flexibility and smoothness of the tissues. Accordingly, appropriate supply of the mucopolysaccharide is useful for keeping blood vessels and skins flexible and suppressing advance of an adult disease disposition of arterial sclerosis.

[0121] When any of conventional type of lipid or saccharide absorption metabolism suppressing diet materials including a large number of natural or synthetic substances, such as yohimbine for inhibiting decomposition of fat, a compound having an absorption inhibiting function and an α -glycosidase inhibitor having carbohydrate absorption inhibiting action, and more specifically, *Aralia elata* of Alariaceae, gymnema extract, chitin chitosan, gallocatechin, polyphenol, catechin and the like or any of various porous materials such as cholestyramine or activated carbon is used together with the present diet food as a component having a saccharide or lipid absorption suppressing action included in the diet food, it is useful for reinforcing the performance of the diet food and the dieting system of this invention.

[0122] Furthermore, a polyphenol also has an antioxidant action, the death rate of cardiac diseases of French people is the lowest in Europe because they ingest a large amount of polyphenol included in red wine, and green tea includes polyphenols such as tannin, catechin and flavonoid. In the present diet, components having an absorption inhibiting function are preferably added as various natural material extracts.

[0123] When the diet food of this invention is combined with a general low-calorie food to provide calorie control per day of 1200 Kcal or less, the dietary energy supply can be suppressed. Specifically, assuming that the basal metabolism of an adult is approximately 24 Kcal/Kg and the kinetic energy is 300 through 500 Kcal, the maintenance energy necessary for an adult with a weight of 60 Kg is approximately 1740 Kcal.

[0124] In order to attain a higher dieting effect by using the diet food of this invention, it is appropriate to apply a protein keeping/adjusting food, namely, a very low-energy food in which saccharide and lipid are extremely reduced. When three meals are composed of the diet food of this invention taken twice a day with 500 Kcal in total and a calorie-controlled food of 500 Kcal or less taken once, the endogenous lipid decomposition is accelerated with the merit of exogenous energy supply control adjusted to 1000 Kcal or less.

[0125] The thus obtained lipid combustion energy is used in the protein synthesis process, and hence, the diet food can attain highly effective combustion/elimination of fat tissues. In particular, differently from diet through simple calorie control and absorption inhibition, the present diet food can improve the energy generation, the cellular activity, the RNA synthesis and the protein synthesis even under high calorie control, and therefore,

the physical strength and the health can be maintained even during the dieting period.

[0126] In the present invention, the yoghurt or the probiotics material derived from yoghurt included in the diet food is useful for keeping the health of a person practicing slimming by using the diet food. The probiotics material means living microbes with properties useful for the health of humans, and polyamines, that is, the product of the probiotics material, are known to accelerate cell protein synthesis and to have breeding activity. Owing to the action of the polyamines, the dieting can be continued while keeping the body functions.

[0127] In the present invention, the water-absorbing fiber component included in the diet food can swell within bowels after being ingested, so as to provide satiety. Also, the water-absorbing fiber component exhibits a lipid or saccharide absorption reducing action.

[0128] In the present invention, the anorectic component included in the diet food has an action to inhibit uptake of serotonin like fluoxetine. Owing to this action, the intestinal movement of the taker is suppressed so as to reduce the appetite for practicing effective dieting. Also, an alkaloid or its derivative working on the central nervous system for reducing the appetite can be included.

[0129] In the present invention, the glutamine, the vitamin A, the vitamin B complex, the vitamin C, the vitamin D complex, the vitamin E, the β -carotene, the linolenic acid, the triglyceride linolenate, the triglyceride eicosapentaenolate, the triglyceride docosahexaenolate or the like included in the diet food assists the dieting effect as well as are useful for keeping the health of the taker through the supplement of essential nutrients during the dieting period.

[0130] In the present invention, the active ingredients of the diet food are preferably substances substantially derived from natural products.

[0131] The present invention can be used for keeping health of or improving diathesis of a fat person, an athlete, a person having an adult disease disposition or a person affected by an adult disease, so as to attain remarkable effects.

[0132] Furthermore, when the diet food of the invention is used for domestic animals and fowls such as cows, pigs and chickens, and pets such as dogs and cats, the effects to keep health or improve diatheses of such animals can be exhibited in the same manner as in the case where it is ingested by a human.

[0133] Also, when the eating comfortableness is improved by fruit juice or a flavor, the attachment of the taker for the diet food can be usefully improved.

[0134] Effects of the Invention

According to the present invention, body fat can be safely and effectively reduced by ingesting the diet food, so as to effectively prevent or improve an adult disease disposition such as obesity, diabetes or hyperlipidemia.

Brief Description of Drawings

[0135] FIG 1 is a component table of exemplified components of a diet food.

Best Mode for Carrying Out the Invention

[0136] Now, preferred embodiments of the invention will be described in detail.

[0137] The present invention provides a diet food including a mixture of PUFA and L-arginine or the like in an effective aggregation amount for prevention and improvement of adult diseases and improvement of obesity.

[0138] In general, fatty acid freed in a body is incorporated into mitochondria present in cells, changed into a form easily usable as energy with aerobically generating ATP through β -oxidation, TCA cycles and oxidative phosphorylation, and decomposed into carbon dioxide and water. Accordingly, it is a significant basic strategy for improvement of obesity and a dieting system to proceed decomposition and combustion of lipid.

[0139] Specifically, although the principal points of a conventional dieting system are absorption control of caloric food and energy supply reduction through food reduction, the principal point of the present diet is acceleration of material metabolic cycle by paying attention to the decomposition and combustion of lipid. Therefore, as characteristics of the dieting system using the diet food of this invention, body fat can be effectively reduced and a symptom such as fatigue or malaise derived from energy shortage minimally occurs.

[0140] The diet food of this invention is ingested by a fat person or a patient of a adult disease for preventing and improving adult diseases and preventing and improving obesity, or is dosed to a precritical person with an adult disease disposition.

[0141] EMBODIMENT 1

The diet food of this invention includes a mixture of an ω -3 PUFA and at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor.

[0142] The ω -3 PUFA of this embodiment may be in a form of free acid or a form suitable for physiological supply of the ω -3 PUFA such as a form of triglyceride. Particularly preferable examples of the ω -3 PUFA of this embodiment are eicosapentaenoic acid (hereinafter sometimes referred to as "EPA") and docosahexaenoic acid (hereinafter sometimes referred to as "DHA"). Such an ω -3 PUFA is included in a comparatively high ratio in linseed oil or fish oil such as menhaden oil, salmon oil, mackerel oil, cod liver oil or anchovy oil.

[0143] The L-arginine precursor or the L-ornithine precursor of this embodiment includes small peptide rich in L-arginine or L-ornithine, respectively. Also, the L-arginine or the L-ornithine may be in a free form or a salt together with, for example, phosphoric acid, citric acid, tartaric acid, formic acid, adipic acid or lactic acid.

[0144] The diet food of this embodiment may be a supplement composed of merely the mixture of the ω -3 PUFA

and the L-arginine or the like and is generally added to general food.

[0145] As the form of the supplement, any of the forms of generally commercially available products such as a drink, a solid matter, a capsule, a tablet and granules can be employed.

[0146] On the other hand, in the case where the diet food is prepared with general food, the aforementioned components prepared in the form of a liquid, a solid matter, a semi-solid matter including a jelly, a mixture of a liquid and a jelly-like substance or granules are added to food for use. Applicable foods are confections such as baked wafers, crackers, biscuits, cookies and cakes, breads such as a loaf, a bun, a roll, a Danish pastry, a crescent and a stick-shaped bread, cereals, noodles, chocolates, candies, tablets, cold sweets such as ice creams and sherbets, Japanese confections such as a bun or a rice cake with bean jam filling, and pates.

Also, vegetable fiber, an olive leaf, an olive leaf extractable matter, luteolin or a luteolin derivative may be added. Owing to the action of the olive leaf, the olive leaf extractable matter, the luteolin or the luteolin derivative to suppress the increase of a blood sugar level, since the decomposition of nutrients (such as starch and amylose) is inhibited by an amylase inhibiting action in an organism, generation of glucose easily absorbed by the organism is suppressed, so as to suppress the increase of the blood sugar level.

[0147] Furthermore, a compound including a variety of diet materials such as salacia reticulata, chitosan, mulberry, aloe and plantain may be an additional component, and vitamins and various minerals may be added thereto. Examples of the vitamins are vitamin A, vitamin B1, vitamin B2, vitamin B6, vitamin D and vitamin E. Furthermore, creatine, citric acid, calcium and iron can be added.

[0148] With respect to an intake of the diet food of this embodiment, the amount of the ω -3 PUFA generally supplied to an adult over a treatment period is preferably 2.0 g or more per day. Also, the amount of the L-arginine, the L-ornithine or the mixture of them supplied over the treatment period is preferably 10 g or more per day.

[0149] The diet food or the supplement is administered preferably for 15 days or more, for example, over 15 through 60 days and once through four times a day. For further keeping the diathesis improving effect, the present diet food is expected to be ingested once or twice a day over a long period of time.

[0150] Accordingly, the amount of the ω -3 PUFA included in the diet food ingested per day is preferably not less than 0.5 g and not more than 10 g, and the amount of the L-arginine, the L-ornithine or the mixture of them is preferably not less than 2 g and not more than 40 g. In other words, as an intake per meal, the amount of the ω -3 PUFA is preferably not less than 0.1 g and not more than 3.5 g, and the amount of at least one of the L-arginine, the L-ornithine, the L-arginine precursor and the L-ornithine precursor is preferably not less than 0.6 g and not more than 15 g.

[0151] However, the amounts of the ω -3 PUFA and the L-arginine, the L-ornithine or the mixture of them to be supplied per day for attaining a desired effect can be varied depending upon the treatment period (days) and individual factors of a patient or the like to be treated.

[0152] The ω -3 PUFA is preferably included in the form offish oil. In this case, when the pH is adjusted to approximately 3 through 4 by an edible acid, the smell peculiar to the fish oil can be reduced. Also, when the fish oil is encapsulated, the smell can be sealed and degradation of the fish oil through oxidation can be suppressed so as to improve the storage property.

[0153] When the L-arginine or the L-arginine precursor is added in this embodiment, the L-arginine or the like has not only an action to accelerate secretion of the growth hormone for activating metabolism but also a function to activate the lipase, that is, a lipolytic enzyme. The lipase activated by the L-arginine efficiently hydrolyses triglyceride stored in fat cells within the body so as to free fatty acid and glycerin. The fatty acid and glycerin thus freed are reused for protein synthesis in the cells or consumed through combustion as an energy source depending upon the tissue, intracellular or extracellular physiological environments.

[0154] On the other hand, when the L-ornithine or the L-ornithine precursor is added in this embodiment, the L-ornithine or the like affects the pituitary gland of the taker so as to activate the synthesis and the release of the growth hormone and improve the metabolism of somatic cells, resulting in accelerating the decomposition and the consumption of body fat.

[0155] Also, the L-arginine has an action to remove ammonia within the body and the L-ornithine has an action to complement this action. Accordingly, even if intravital metabolisms are inclined to tissue disorganization due to undernutrition or strain, a detoxication action can be exhibited.

[0156] Furthermore, the ω -3 PUFA included in the diet food of this embodiment is bonded to the glycerin freed from endogenous triglyceride within the body of the taker. Thus, the ω -3 PUFA prevents endogenous fatty acid from converted into triglyceride again to be stored in fat tissues.

[0157] As a result, the diet food of this embodiment effectively reduces body fat of the taker through the synergistic effect of the ω -3 PUFA and the L-arginine or the L-ornithine, so as to prevent/improve adult diseases and obesity.

[0158] EMBODIMENT 2

A diet food of this embodiment includes a mixture of ω -6 PUFA and at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor.

[0159] The ω -6 PUFA of this embodiment may be in a form of free acid or in a form of triglyceride suitable for physiological supply of the ω -6 PUFA.

[0160] Particularly preferable examples of the ω -6 PUFA of this embodiment are linolenic acid and arachidonic acid, and linolenic acid is the most preferred. The pref-

erable ω -6 PUFA is included in a comparatively high ratio in vegetable oil such as safflower oil, sunflower oil, soybean oil, cotton seed oil or corn oil.

[0161] Also the diet food of this embodiment is administered to a taker in the form of a supplement or in the form where it is added to general food as in the aforementioned embodiment.

[0162] With respect to an intake per day of the diet food of this embodiment, the amount of the ω -6 PUFA generally supplied to an adult over a treatment period is preferably 2.0 g or more. Also, the amount of the L-arginine, the L-ornithine or the mixture of them supplied to an adult over the treatment period is preferably 10 g or more.

[0163] The diet food or the supplement is administered preferably for 15 days or more, for example, over 15 through 60 days and once through four times a day.

[0164] Accordingly, the amount of the ω -6 PUFA included in the diet food ingested per day is preferably not less than 0.5 g and not more than 10 g, and the amount of the L-arginine or the L-ornithine is preferably not less than 3 g and not more than 40 g.

[0165] However, the amounts of the ω -6 PUFA and the L-arginine, the L-ornithine or the mixture of them to be supplied per day for attaining a desired effect can be varied depending upon the treatment period (days) and individual factors of a patient or the like to be treated.

[0166] The ω -6 PUFA may be included in the form offish oil. In this case, when the pH is adjusted to approximately 3 through 4 by an edible acid, the smell peculiar to the fish oil can be reduced. Also, when the fish oil is encapsulated, the smell can be sealed and degradation of the fish oil through oxidation can be suppressed so as to improve the storage property.

[0167] The actions and effects of the L-arginine and the L-ornithine included in the diet food of this embodiment are the same as those described in Embodiment 1.

[0168] The ω -6 PUFA of this embodiment is bonded to freed glycerin so as to prevent the glycerin from reconverted into triglyceride and being stored in fat cells in the same manner as the ω -3 PUFA. Also, during the practice of the dieting system for obesity or an adult disease, the ω -6 PUFA advantageously affects resistance against catabolism, that is, a state where self-organization is combusted for generating energy.

[0169] When the L-arginine or the L-arginine precursor is added in this embodiment, the L-arginine or the like has not only an action to accelerate the secretion of the growth hormone for activating the metabolism but also an action to activate lipase, that is, a lipolytic enzyme in the same manner as in Embodiment 1.

[0170] On the other hand, when the L-ornithine or the L-ornithine precursor is added in this embodiment, the L-ornithine or the like affects the hypophysis of the taker so as to activate the synthesis and the release of the growth hormone and facilitate the metabolism of somatic cells, resulting in accelerating the decomposition and the consumption of the body fat.

[0171] Furthermore, the ω -6 PUFA included in the diet food of this embodiment is bonded to the glycerin freed from the neutral fat within the body of the taker. Thus, the ω -6 PUFA prevents the endogenous fatty acid from bonded into triglyceride again to be stored in the fat tissues. Moreover, since the ω -6 PUFA advantageously affects the resistance against the catabolism, the safety of the dieting can be improved.

[0172] As a result, the diet food of this embodiment effectively reduces the body fat of the taker through the synergistic effect of the ω -6 PUFA and the L-arginine or the L-ornithine, so as to prevent/improve adult diseases and obesity.

[0173] It is noted that ω -3 PUFA may be combined with the ω -6 PUFA to be additionally included in the diet food of this embodiment.

[0174] EMBODIMENT 3

A diet food of this embodiment includes a mixture of at least one of diacylglycerol, middle or short chain fatty acid and phytosterol and at least one of L-arginine, L-ornithine, an L-arginine precursor and an L-ornithine precursor.

[0175] In this embodiment, the diacylglycerol is two molecules of fatty acid bonded to one molecule of glycerin and has a property that it is minimally re-synthesized into fat after being absorbed into a body.

[0176] Among medium or short chain fatty acids, those having a carbon number of 8 through 10 or not more than 8 have a higher water-soluble property than a general long chain fatty acid and are easily combusted.

[0177] The phytosterol has a property to dissolve in bile acid and has a function to reduce the absorption of general cholesterol.

[0178] The actions and effects of the L-arginine, the L-ornithine, the L-arginine precursor and the L-ornithine precursor of this embodiment are the same as those described in each of the above-described embodiments.

[0179] According to the diet food of this embodiment, owing to the synergistic effect of the diacylglycerol, the medium or short chain fatty acid or the phytosterol and the L-arginine or the L-ornithine, body fat can be safely and effectively reduced, so as to prevent/improve an adult disease or obesity.

[0180] ALTERNATIVE EMBODIMENTS

In an alternative embodiment of this invention, the diet food may include at least one of nucleo-bases, nucleosides and nucleic acids.

[0181] The nucleo-bases are preferably at least one of adenine, guanine, hypoxanthine, xanthine, cytosine, uracil and thymine.

[0182] The nucleosides are preferably at least one of uridine, adenosine, guanosine, cytidine, ribothymidine, deoxyadenosine, deoxyguanosine, deoxyuridine, deoxycytidine, thymidine, inosine and xanthosine.

[0183] The nucleic acids are preferably at least one of DNA, RNA and polynucleotide obtained by polymerizing nucleotides. As a purified nucleic acid substrate source, for example, baker's or brewer's yeast RNA or fish seed

DNA is preferred. However, another source such as meat may be used as a starting source.

[0184] The nucleo-bases, the nucleosides and the nucleic acids have an action to increase energy consumption required in intracellular metabolism in a process mainly from RNA assembly to protein synthesis. Accordingly, energy generated through combustion of free fatty acid that is inhibited from re-bonding to glycerin is effectively consumed in the process from the RNA assembly through recruit of amino acid to the synthesis of peptide and protein. Therefore, the nucleo-bases, the nucleosides and the nucleic acids work to reinforce the fat metabolizing action of the diet food of this invention.

[0185] Alternatively, the diet food may include nucleotides. The nucleotides include phosphate esters of natural nucleosides, for example, monophosphate esters such as adenyate (AMP), guanilate (GMP), uridilate (UMP), cytidilate (CMP), deoxythymidilate (dTMP) and deoxycytidilate (dCMP), and diphosphate esters or triphosphate esters of natural nucleoside such as ADP and ATP.

[0186] A dose of the nucleic acid substrate source is varied depending upon the type of a desired treatment, the condition of a patient to be treated and the like. For example, when the patient to be treated is an adult, 0.1 through 4.0 g, preferably 1.0 through 3.0 g and most preferably 1.25 through 2.5 g of RNA or an equivalent weight of another nuclear substrate is set as a dose per day. When the diet food of this invention thus including a given amount of nucleic acids is used, an effective response of salvage nucleic acid synthesis can be easily obtained. In this invention, one weight unit of nucleic acid substrate is regarded to be equal to 2.5 through 3.0 weight units of RNA, DNA, a nucleoside or a nucleotide.

[0187] In another embodiment, the diet food may include at least one of maltodextrin, cluster dextrin and indigestible dextrin.

[0188] In this embodiment, the maltodextrin, the cluster dextrin and the indigestible dextrin included in the diet food is obtained by reducing the molecular weight of starch by a chemical or enzymatic method.

[0189] These dextrin can supplement energy of the diet food in an idealistic manner. Specifically, when such dextrin is ingested, the blood sugar level is more moderately increased than when glucose, sucrose or fructose is ingested. Therefore, the secretion of insulin into the blood is not excessive, and various intracellular signal transduction systems are not excessively activated, resulting in suppressing an unreasonable biological reaction related to acceleration of obesity or arterial sclerosis arising from excessive change of the blood sugar. Accordingly, the taker is free from abrupt hunger or fatigue even when he/she is on a diet.

[0190] Furthermore, for adjusting the taste, a low-calorie sweetener such as aspartyl phenylalanine methyl ester (brand name: Aspartame) may be included.

[0191] In another embodiment, the diet food may include a water-absorbing fiber component. Soluble fiber

of this embodiment means fiber that can substantially fermented mainly in a colic so as to produce short chain fatty acid. Preferable examples of the soluble fiber are pectin, guar gum, locust bean gum and xanthan gum. Such soluble fiber is hydrated and swells in the gastrointestinal tract, so as to provide physical and psychological satiety to the taker. Also, such a substance has an action to suppress absorption into the body of lipid and carbohydrate and hence reinforces the effects of the diet food.

[0192] A dose per day of the soluble fiber of this embodiment is approximately 3.0 through 30 g per day for an adult.

[0193] In another embodiment, the diet food may include mucopolysaccharides. Preferable examples of the mucopolysaccharides are hyaluronic acid, chondroitin, chondroitin sulfate, dermatan sulfate and heparin.

[0194] In another embodiment, the diet food may include an anorectic component.

[0195] As a preferable anorectic component, an appropriate amount of a substance for suppressing uptake of serotonin, that is, a hormone for accelerating the intestinal movement, such as fluoxetine, or an alkaloid is effectively included.

[0196] In another embodiment, the diet food may include a component having an absorption suppressing action for saccharide and lipid. Preferable examples of the absorption suppressing component are yohimbine that suppresses decomposition of lipid, a glucosidase inhibitor having a carbohydrate absorption inhibiting action, *Aralia elata* of Alariaceae, gymnema extract, chitin chitosan, sylvestre and polyphenol. These substances are useful for reinforcing the effects of the diet food of this invention.

[0197] In another embodiment, the diet food may include yoghurt or a probiotics material derived from yoghurt.

[0198] The yoghurt or the probiotics material derived from yoghurt included in the diet food is useful for keeping the health of a person who is on a diet by using the diet food. The probiotics material means living microbes with properties useful for the health of humans, and polyamines, that is, the product of the probiotics material, are known to accelerate the cell protein synthesis and to have the breeding activity. Owing to the actions of the polyamines, it is easy to continuously practice the dieting while retaining the body functions.

[0199] In this embodiment, the probiotics material is sealed within a capsule or appropriately processed by, for example, pulverizing through freeze-drying to be added to the diet food. Also, the diet food may be ingested in a combination with yoghurt or the like.

[0200] In this invention, the diet food may include at least one of glutamine, vitamin A, vitamin C, vitamin D, vitamin E, vitamin K, folic acid, thiamine, riboflavine, vitamin B6, vitamin B12, niacin, biotin, pantothenic acid, β -carotene, linolenic acid, triglyceride linolenate, triglyceride elcosapentaenate and triglyceride docosahexaenate.

[0201] The diet food can further include mineral elements or minor elements, in a pharmacologically allowable form, such as sodium, potassium, calcium, phosphorus, magnesium, manganese, copper, zinc, iron, selenium, selenium chloride, chromium and molybdenum.

[0202] In this invention, the active ingredients of the diet food are preferably substances derived from natural products.

[0203] The diet food of this invention not only exhibits the function to improve obesity or an adult disease diathesis but also keeps a person under calorie control resistant to the catabolism, and therefore, it is suggested to be useful for improving cibophobia.

[0204] The invention will now be described by the following examples:

[0205] Example 1

A sixty-five-year-old female (with a height of 156 cm, a weight of 85 Kg and a blood pressure of 176/104 mmHg) was made to ingest the diet food of this invention having the compositions listed in FIG. 1 for three weeks instead of lunch out of general breakfast, lunch and supper. In this example, the diet food was in a liquid form and the intake per meal was 250 ml. It is noted that the other meals were not controlled at all.

[0206] As a result, the weight of this person was reduced by approximately 3.5 Kg and the blood pressure was lowered to 154/88 mmHg, and she felt dull headache became improved and her body lighter as the subjective signs.

[0207] Example 2

Also, a fifty-one-year-old male (with a height of 167 cm and a weight of 69 Kg) was made to ingest the diet food of this invention having the compositions listed in FIG. 1 for eight weeks instead of lunch out of general breakfast, lunch and supper. In this example, the diet food was in a liquid form and the intake per meal was 250 ml. It is noted that the other meals were not controlled at all.

[0208] As a result, the weight of the male was reduced by approximately 2 Kg in 30 days and by 3 Kg in 60 days as compared with that weighed before the dieting.

[0209] Furthermore, the male subject was made to ingest the diet food instead of breakfast and lunch out of general breakfast, lunch and supper twice a day at 8 a.m. and noon.

[0210] As a result, the weight was further reduced by approximately 2 Kg in 30 days. Accordingly, over the whole dieting period, the supper was not controlled at all and there was no restriction in snacks and night snacks, but the weight loss of 5 Kg in total in 90 days was achieved without causing any symptom of malaise or other complications.

[0211] Example 3

A forty-nine-year-old male having hypertension, diabetes and adiposis (with a height of 169 cm, a weight of 106.2 Kg, a blood pressure of 144/93 mmHg with medication and fasting blood sugar of 145 mg/ml) was made to ingest the diet food of this invention having the compositions listed in FIG. 1 for two weeks as lunch in combination



PODER ESPECIAL

Yo, **WALTER TANAKA TATEKAWA**, mayor de edad y vecino de la ciudad de Barranquilla (Colombia), identificado como aparece al pie de mi firma, quien en el presente documento actúa en calidad de Representante Legal de la sociedad **PROCAPS S.A.** sociedad legalmente constituida y domiciliada en la ciudad de Barranquilla (Colombia), por el presente documento otorgo a la doctora **ELIANA ISAURA MORENO BOHORQUEZ**, abogada en ejercicio, identificada como aparece al pie de su firma, con tarjeta profesional No. 83823 del C.S. de la J., poder especial, amplio y suficiente, para formular oposiciones u observaciones a la solicitud de patente No. 11 144.799, titulada "EMULSIONES NUTRICIONALES CON UN CONTENIDO ELEVADO DE FIBRA", cuyo titular es **ABBOTT LABORATORIES**. publicada en la gaceta No. 645 del 30 de mayo de 2012.

Nuestro apoderado queda facultado, de manera expresa, para realizar todo tipo de actos necesarios para llevar a cabo el trámite de la oposición, incluyendo, sin limitación, preparar y presentar solicitudes, hacer declaraciones, pagar tasas, contribuciones e impuestos, recabar los títulos o certificados. Asimismo quedan autorizados para impugnar administrativamente todo lo que fuere resuelto en el expediente a que se hace expresa referencia en el presente poder, con todas las facultades generales y específicas que fuera requerido para ella.

De la misma manera, además de las facultades que le confiere la naturaleza del presente mandato, se encuentran facultados para recibir, desistir, transigir, sustituir, y reasumir el presente poder, incoar acciones, interponer recursos y demás facultades conferidas por la ley.

Dado y Firmado en Barranquilla (Colombia) a los 1 días del mes de Agosto de 2012.

PROCAPS S.A.

C.C. N° 16'251.923
NIT: 890.106.527-5
Representante Legal

APROBADO

10/08/2012

PROCAPS S.A.

Acepto:

ELIANA ISAURA MORENO BOHÓRQUEZ
C.C. 51.975.664
T.P. 83823 del C.S.J

Barranquilla, 05 de Julio de 2012

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***** Pag. 1
C A M A R A D E C O M E R C I O
D E B A R R A N Q U I L L A
07*****

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O DE INSCRIPCION DE DOCUMENTOS.

PROCAPS S.A.-----
NIT: 890.106.527-5.

EN JUNIO DE ESTE AÑO SE ELEGIRÁ JUNTA DIRECTIVA DE LA CÁMARA DE COMERCIO. LAS INSCRIPCIONES DE CANDIDATOS DEBEN HACERSE HASTA EL ULTIMO DIA HABIL DE LA SEGUNDA QUINCENA DE ABRIL. PARA INFORMACIÓN DETALLADA DIRIGIRSE A LA SEDE PRINCIPAL O COMUNICARSE AL SIGUIENTE TELEFONO: 3303718-3303716.

EL SUSCRITO SECRETARIO DE LA CAMARA DE COMERCIO DE BARRANQUILLA, CON FUNDAMENTO EN LAS INSCRIPCIONES DEL REGISTRO MERCANTIL:

C E R T I F I C A

Que por Escritura Pública No. 1,190 del 22 de Julio de 1976, otorgada en la Notaria Tercera de Barranquilla, inscrito(as) en esta Cámara de Comercio, el 28 de Julio de 1976 bajo el No. 6,070 del libro respectivo, fue constituida la sociedad limitada denominada "PRODUCTORA DE CAPSULAS DE GELATINAS LIMITADA "PROCAPS LIMITADA".-----

C E R T I F I C A

Que por Escritura Pública No. 1,307 del 28 de Junio de 1979, otorgada en la Notaria Tercera de Barranquilla, inscrito(as) en esta Cámara de Comercio, el 23 de Julio de 1979 bajo el No. 10,039 del libro respectivo, la sociedad antes mencionada se transformo en sociedad anonima bajo la denominacion social de "PRODUCTORA DE CAPSULAS DE GELATINA S.A." PROCAPS S.A.".-----

C E R T I F I C A

Que por Escritura Pública No. 3,810 del 31 de Dic/bre de 1980, otorgada en la Notaria Primera de Barranquilla, inscrito(as) en esta Cámara de Comercio, el 30 de Enero de 1981 bajo el No. 12,705 del libro respectivo, la sociedad antes mencionada se transformo en sociedad de responsabilidad limitada bajo al razon social de "PRODUCTORA DE CAPSULAS DE GELATINA LIMITADA "PROCAPS LI - MITADA".-----

C E R T I F I C A

Que por Escritura Pública No. 3,755 del 10 de Nov/bre de 1983, otorgada en la Notaria Unica de Soledad, inscrito(as) en esta Cámara de Comercio, el 22 de Nov/bre de 1983 bajo el No. 17,922 del libro respectivo, la sociedad antes mencionada se transformo en sociedad anonima bajo la denominacion social de "PRODUCTORA DE CAPSULAS DE GELATINA S.A." PROCAPS S.A.".-----

***** C O N T I N U A *****

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O DE INSCRIPCION DE DOCUMENTOS.

PROCAPS S.A. -----

NIT: 890.106.527-5.

C E R T I F I C A

Que por Escritura Pública No. 3,615 del 06 de Dic/bre de 1996, otorgada en la Notaria 2a. de Barranquilla, inscrito(as) en esta Cámara de Comercio, el 20 de Dic/bre de 1996 bajo el No. 67,218 del libro respectivo, la sociedad antes mencionada-----
cambio de razon social, por la denominacion LABORATORIOS PROCAPS S.A. -----

C E R T I F I C A

Que por Escritura Pública No. 3,775 del 18 de Dic/bre de 1996, otorgada en la Notaria 2a. de Barranquilla, inscrito(as) en esta Cámara de Comercio, el 23 de Enero de 1997 bajo el No. 67,704 del libro respectivo, la sociedad antes mencionada-----
cambio de razon social, por la denominacion PROCAPS S.A. -----

C E R T I F I C A

Que dicha sociedad ha sido reformada por las siguientes escrituras y/o documentos privados:

Numero	aaaa/mm/dd	Notaria	No. Insc o Reg	aaaa/mm/dd
39	1979/01/18	Notaria 3a. de Barranquilla.	9,452	1979/01/24
992	1981/04/30	Notaria 1a. de Barranquilla	13,112	1981/05/06
1,464	1982/08/27	Notaria Unica de Soledad	15,533	1982/09/08
2,744	1983/08/18	Notaria Unica de Soledad	17,416	1983/08/26
3,826	1984/07/16	Notaria Unica de Soledad	19,554	1984/07/27
3,835	1985/08/26	Notaria Unica de Soledad	22,230	1985/09/04
2,260	1986/09/10	Notaria Unica de Soledad	24,995	1986/09/15
1,849	1989/07/11	Notaria 2a. de Barranquilla.	33,909	1989/07/13
444	1990/02/21	Notaria 2a. de Barranquilla.	36,101	1990/03/16
3,090	1991/12/17	Notaria 2a. de Barranquilla	43,993	1992/01/28
269	1993/02/01	Notaria 2a. de Barranquilla	48,428	1993/02/16
2,342	1993/07/28	Notaria 2a. de Barranquilla	50,582	1993/08/10
3,652	1993/11/09	Notaria 2a. de Barranquilla	51,798	1993/11/22
3,615	1996/12/06	Notaria 2a. de Barranquilla	67,218	1996/12/20
89	1997/01/16	Notaria 2a. de Barranquilla	67,704	1997/01/23
2,070	1997/07/17	Notaria 2a. de Barranquilla	70,627	1997/07/31
2,281	1997/08/04	Notaria 2a. de Barranquilla	70,813	1997/08/14
765	1999/04/22	Notaria 3a. de Barranquilla	80,628	1999/04/23
459	2001/02/21	Notaria 2a. de Barranquilla	91,502	2001/02/23
2,608	2001/10/05	Notaria 2a. de Barranquilla	95,771	2001/11/08
1,730	2004/07/29	Notaria 2. de Barranquilla	112,999	2004/08/26
416	2005/03/03	Notaria 2. de Barranquilla	116,364	2005/03/10
1,613	2005/07/28	Notaria 2. de Barranquilla	119,322	2005/08/18
710	2009/05/05	Notaria 3 a. de Barranquilla	150,130	2009/06/30
1,054	2009/06/25	Notaria 3 a. de Barranquilla	150,130	2009/06/30

C E R T I F I C A

Que de acuerdo con la(s) escritura(s) o el(los) documento(s) arriba citado(s), la sociedad se rige por las siguientes disposiciones:

***** C O N T I N U A *****

No. 17652934

03-12020458 024802 PROCAPS S.A.

Barranquilla, 05 de Julio de 2012

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***** Pag. 2
 C A M A R A D E C O M E R C I O
 D E B A R R A N Q U I L L A
 07*****

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O DE INSCRIPCION DE DOCUMENTOS.

PROCAPS S.A.-----
 NIT: 890.106.527-5.

DENOMINACION O RAZON SOCIAL:

PROCAPS S.A.-----
 SIGLA: PROCAPS.

DOMICILIO PRINCIPAL: Barranquilla.

NIT No: 890.106.527-5.

MATRICULA MERCANTIL: 24,802.

C E R T I F I C A

Direccion Comercial:

CL 80 No 78 B - 201 en Barranquilla.

Dirección Electrónica:

jcelis@procaps.com.co

Telefono: 3719278.

Direccion Judicial:

CL 80 No 78 B - 201 en Barranquilla.

Dirección Electrónica:

jcelis@procaps.com.co

Telefono: 3719278.

C E R T I F I C A

DURACION: Que la sociedad no se halla disuelta y su término de duración se fijó hasta el 18 de Agosto de 2073.

C E R T I F I C A

OBJETO SOCIAL: El objeto principal de la sociedad sera: a) La fabricacion, importacion y comercializacion de alimentos procesados y suplementos dietarios. b) La fabricacion de capsulas y otros productos similares a partir de materiales tales como gelatinas u otros de distinta naturaleza, que puedan ser utilizados como envases o recipientes de productos y sustancias quimicas, farmaceuticas, alimenticias y cosmeticas, para uso y consumo humano y veterinario. c) La investigacion, desarrollo y fabricacion de toda clase de productos y sustancias quimicas, farmaceuticas, alimenticias y cosmeticas para uso y consumo humano, animal y vegetal. d) La compra y venta de materias primas, insumos y productos intermedios necesarios para los procesos de fabricacion de sustancias quimicas, farmaceuticas, alimenticias y cosmeticas, asi como la comercializacion interna y externa de los productos terminados. e) La compra, venta, importacion, exportacion y distribucion de toda clase de elementos instrumentales y equipos medicos, quirurgicos, odontologicos y hospitalarios para la salud humana y animal. f) La compra, venta, exportacion, fabricacion, importacion, distribucion de dulces, confites, galletas y todo

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tipo de golosinas o alimentos para el consumo humano. g) Actuar como representante o agente de personas naturales y juridicas, nacionales y extranjeras en la realizacion de operaciones o transacciones relacionadas con la industria farmaceutica y en especial con cualquiera de las actividades descritas en los literales a), b), c), d) y e) antes descritos. h) Prestar los servicios de asesorias y consultoria en las areas administrativas, de mercadeo, analisis clinico, asistencia tecnica, investigacion, costos y produccion, exportaciones, importaciones, ventas, relacionadas con iguales o similares actividades a las que constituyen el objeto de PROCAPS S.A., asi como los de publicidad y promocion de productos quimicos, alimenticios, cosmeticos y farmaceuticos para uso humano, animal o industrial. i) Adquirir, operar, administrar y explotar, a cualquier titulo, empresa o establecimientos dedicados a la investigacion, desarrollo, fabricacion o comercializacion de productos quimicos, farmaceuticos, alimenticios, hospitalarios o cosmeticos. En desarrollo de su objeto principal, la sociedad podra tomar interes social como accionista, socio o fundador de empresas que tengan igual o similar objeto, comprar, vender, importar y exportar maquinarias, insumos y repuestos requeridos para el desarrollo de sus actividades; tomar dinero en prestamo, financiar y garantizar las operaciones comerciales que celebre con terceros relativas a su objeto; celebrar y ejecutar todo tipo de actos y contratos necesarios para desarrollar sus operaciones de girar, aceptar, otorgar y protestar todo tipo de titulos valores e instrumentos negociables, comprar, vender y constituir gravámenes sobre bienes muebles e inmuebles, designar representantes apoderados en el pais y en el exterior y, en general, realizar cualquier acto o negocio que sea necesario o conveniente para el desarrollo de su objeto social y para la mejor proteccion de sus intereses corporativos o la de sus socios. La sociedad podra garantizar el cumplimiento de sus obligaciones adquiridas por terceros o por sus socios, para lo cual podra inclusive constituir gravámenes reales sobre sus bienes de cualquier naturaleza.

C E R T I F I C A

CAPITAL	Nro Acciones	Valor Acci3n
Autorizado		
\$*****2,000,000,000	*****2,000,000	*****1,000
Suscrito		
\$*****1,298,000,000	*****1,298,000	*****1,000
Pagado		
\$*****1,298,000,000	*****1,298,000	*****1,000

C E R T I F I C A

ADMINISTRACION: La direccion y administracion de la sociedad correspondera a la Asamblea General de Accionistas, a la Junta Directiva, al Presidente, al Vicepresidente y a un Gerente General. Corresponde a la Junta Directiva las siguientes funciones y atribuciones entre otras: Autorizar cualquier acto o contrato cuya cuantia sea superior

***** C O N T I N U A *****



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 07*****

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al equivalente en pesos Colombianos a doscientos cincuenta mil dolares de los Estados Unidos de America (US\$250.000), liquidados a la tasa de cambio representativa del mercado vigente el dia en que se surta la transacion. Cuando se trate de operaciones en virtud de las cuales la sociedad garantice obligaciones de terceros o de los socios, se requerira que la operacion sea aprobada con el voto de por lo menos 2/3 partes de los integrantes de la Junta Directiva. La sociedad tendra un Presidente, quien ejercera la representacion legal de la sociedad y tendra las siguientes atribuciones entre otras: Ejecutar las decisiones de la Asamblea General de Accionistas y de la Junta Directiva. Ejercer la Representacion Legal de la sociedad en todos los actos y contratos que se requieran para el desarrollo del objeto social, de conformidad con lo previsto en las leyes y en los presentes estatutos. Constituir apoderados judiciales y extrajudiciales, recibir notificaciones, absolver interrogatorios de parte, confesar obligaciones de la sociedad, transigir, desistir y allanar a la sociedad en cualquier asunto judicial. Aprobar y celebrar en nombre de la sociedad todo acto o contrato cuya cuantia sea igual o inferior al equivalente en pesos colombianos a doscientos cincuenta mil dolares de los Estados Unidos de America (US\$250.000), liquidados a la tasa de cambio representativa del mercado vigente el dia en que se surta la transacion o celebracion del acto. Las demas funciones que le correspondan como Representante Legal por disposicion de la ley, de estos estatutos o de la Junta Directiva. El Presidente tendra un suplente, designado por la Junta Directiva, quien reemplazara al Presidente en sus faltas temporales, absolutas o meramente accidentales, con entidades facultades y sin que sea necesario para ello acreditar la ausencia del principal. La sociedad tendra un Vicepresidente designado por la Junta Directiva, quien tambien ejercera la representacion legal de la sociedad, pudiendo ejercerla conjunta o separadamente con el Presidente. El vicepresidente tendra las siguientes facultades entre otras. Ejecutar dentro de su competencia las decisiones de la Asamblea General de Accionistas, de la Junta Directiva y del Presidente. Ejercer la representacion legal de la sociedad en todos los actos y contratos que se requieran para el desarrollo del objeto social, de conformidad con lo previsto en las leyes y en los presentes estatutos. Constituir apoderados judiciales y extrajudiciales, recibir notificaciones, absolver interrogatorios de parte, confesar obligaciones de la sociedad, transigir, desistir y allanar a la sociedad en cualquier asunto judicial. Aprobar y celebrar en nombre de la sociedad todo acto o contrato cuya cuantia sea igual o inferior al equivalente en pesos colombianos a ciento cincuenta mil dolares de los Estados Unidos de America (US\$150.000), liquidados a la tasa de cambio representativa del mercado vigente

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el dia en que se surta la aprobacion o celebracion del acto, siempre que no se trate de enajenar bienes inmuebles o cualquier otro activo fijo de la sociedad, inclusive de naturaleza muebles, acciones, cuotas o partes de interés inversiones y todo tipo de derechos de la sociedad, o de constituir gravámenes sobre cualquiera de los anteriores, facultades que radican exclusiva y privativamente en cabeza del Presidente. Las demas funciones que le corresponda como Representante legal por disposicion de la ley, de estos estatutos o de la Junta Directiva. El Vicepresidente tendra (1) suplente, designado por la Junta Directiva, quien lo reemplazara conjunta o separadamente en sus faltas temporales, absolutas o meramente accidentales, con identicas facultades y sin que sea necesario para ello acreditar la ausencia del principal. La sociedad tendra un (1) Gerente General, con su respectivo Suplente, designados por la Junta Directiva. El Suplente reemplazara al Gerente General, en sus faltas temporales, absolutas o meramente accidentales, quien junto con el gerente general, llevaran la representacion legal de la sociedad, con identicas facultades, pudiendolas ejercer conjunta o separadamente con el Presidente y Vicepresidente, con identicas facultades que el Gerente General y sin que sea necesario para ello acreditar la ausencia del titular. El Gerente General tendra las siguientes facultades entre otras: Ejercer la representacion legal de la sociedad, en todos los actos y contratos que se requieran para el desarrollo del objeto social, de conformidad con lo previsto en las leyes y en los presentes estatutos. Aprobar y celebrar en nombre de la sociedad todo acto o contrato cuya cuantia sea igual o inferior al equivalente en pesos Colombianos a Cincuenta Mil dolares de los Estados Unidos de America (US\$50.000) liquidados a la tasa de cambio representativa del mercado vigente el dia en que se surta la aprobacion o celebracion del acto, siempre que no se trate de enajenar a cualquier titulo bienes inmuebles o cualquier otro activo fijo de la sociedad, inclusive de naturaleza mueble, acciones, cuotas o partes de interes, inversiones y todo tipo de derechos de la sociedad o de constituir gravámenes sobre cualquiera de las anteriores facultades que radican exclusiva y privativamente en cabeza del Presidente.

C E R T I F I C A

Que según Acta No. 116 del 27 de Junio de 1997 correspondiente a la Asamblea de Accionistas en Barranquilla, de la sociedad:

PROCAPS S.A.-----

cuya parte pertinente se inscribió en esta Cámara de Comercio, el 15 de Agosto de 1997 bajo el No. 70,838 del libro respectivo, y según Acta No. 127 del 22 de Marzo de 2000 correspondiente a la Asamblea de Accionistas en Barranquilla, de la sociedad:

PROCAPS S.A.-----

cuya parte pertinente se inscribió en esta Cámara de Comercio, el 29 de Mayo de 2000 bajo el No. 87,250 del libro respectivo, fueron hechos los siguientes nombramientos:

CLASE:

JUNTA DIRECTIVA

***** C O N T I N U A *****

03-12020458 024802 PROCAPS S.A.

No. 17652936

Barranquilla, 05 de Julio de 2012

Hr:16:28:29



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 NIT: 890.106.527-5.

Principales

1. Minski Gontovnik Ruben	CC.*****7,463,982
2. Minski Gontovnik Meyer	CC.*****7,461,324
3. Minski Gontovnik Jose	CC.*****8,671,834

Suplentes

1. Minski Zirberblum Elliot	CC.*****72,219,541
2. Minski Deitel Daniel	*****
3. Minski Sharon	PA.*990,212,082,805

C E R T I F I C A

Que según Acta No. 116 del 27 de Junio de 1997 correspondiente a la Asamblea de Accionistas en Barranquilla, de la sociedad: PROCAPS S.A. cuya parte pertinente se inscribió en esta Cámara de Comercio, el 15 de Agosto de 1997, bajo el No. 70,838 del libro respectivo, fueron hechos los siguientes nombramientos:

Cargo/Nombre	Identificación
Presidente. Minski Gontovnik Ruben	CC.*****7463982

C E R T I F I C A

Que según Acta No. 406 del 02 de Sep/bre de 2004 correspondiente a la Junta Directiva en Barranquilla, de la sociedad: PROCAPS S.A. cuya parte pertinente se inscribió en esta Cámara de Comercio, el 09 de Sep/bre de 2004 bajo el No. 113,263 del libro respectivo, fueron hechos los siguientes nombramientos:

Cargo/Nombre	Identificación
Suplente del Gerente. Tanaka Tatekawa Walter	CC.*****16251923

C E R T I F I C A

Que según Acta No. 658 del 07 de Dic/bre de 2011 correspondiente a la Junta Directiva en Barranquilla, de la sociedad: PROCAPS S.A. cuya parte pertinente se inscribió en esta Cámara de Comercio, el 09 de Dic/bre de 2011 bajo el No. 176,066 del libro respectivo, fueron hechos los siguientes nombramientos:

Cargo/Nombre	Identificación
Gerente General. Otero Arteaga Javier Ernesto	CC.*****91263993
Vicepresidente Minski Gontovnik Jose	CC.*****8671834
Suplente del Presidente	

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Minski Gontovnik Meyer
Suplente del vicepresidente
Carvajalino Pagano Marcela

CC.*****7461324

CC.*****22579748

C E R T I F I C A

Que según Acta No. 159 del 16 de Enero de 2012 correspondiente a la Asamblea de Accionistas en Barranquilla, de la sociedad: PROCAPS S.A. cuya parte pertinente se inscribió en esta Cámara de Comercio, el 23 de Enero de 2012 bajo el No. 237,199 del libro respectivo, fueron hechos los siguientes nombramientos:

Cargo/Nombre
Revisor Fiscal Principal
Rodriguez Rey Jose Luis

Identificación

CC.*****72,001,912

C E R T I F I C A

Que por Escritura Pública No. 2,784 del 07 de Dic/bre de 2007, otorgada en la Notaria 2 a. de Barranquilla cuya parte pertinente se inscribió en esta Cámara de Comercio, el 20 de Dic/bre de 2007 bajo el No. 3,492 del libro respectivo, y las inscripciones 3.492-1, 3.493, 3.494, 3.495, 3.496, 3.497, 3.498, 3.499, 3.500, 3.501, 3.502, 3.503, 3.504, 3.505, 3.506, 3.507, Consta que RUBEN MINSKI-GONTOVNIK, C.C. No. 7.463.982, obrando como Presidente y Representante Legal de la sociedad C.I. NATURMEGA S.A., que obrando en su condición de Presidente y Representante Legal de la sociedad PROCAPS S.A. el presidente debidamente facultado por los Estatutos Sociales y por el Maximo Organó Social, otorga los siguientes poderes: Otorgar poder general, amplio y suficiente a los doctores JOSEFINA DEL CARMEN MIELES BUELVAS CC.No.33.138.497; a MARCELA CARVAJALINO PAGANO CC.No.22.579.748; CRISTINA VIOLI FRANCESCHINI CC.No.22.463.716, con las facultades que se transcriben a continuación: a.- Para que representen a la sociedad PROCAPS S.A. ante todo tipo de autoridades administrativas y jurisdiccionales, en asuntos de naturaleza civil, laboral, comercial, penal, aduanera, cambiaria, tributaria, policiva, administrativa y fiscal. b.- Contestar y presentar demandas, requerimientos, recursos, pedir y aportar pruebas, recibir, notificarse, ejercer la acción de tutela, tramitar incidente de desácató, comparecer en los procesos que cursen contra la sociedad, allanarse en nombre de la sociedad en los asuntos que sean necesarios, transigir, desistir, sustituir, renunciar y reasumir el poder. c.- La facultad expresa de conciliar, por tanto pueden llegar a acuerdos conciliatorios, transaccionales, judiciales o extrajudiciales o extrajudiciales, cualquiera que sea su cuantía, para lo cual las apoderadas deben aportar la autorización simple y escrita del Representante legal de la sociedad. d.- Podrán presentar solicitudes de devolución y/o compensación de impuestos, ventas y rentas, recibir los pagos por las devoluciones y adelantar todo trámite o proceso administrativo ante la DIAN, de tal forma que en ningún momento quede sin representación legal de la sociedad. PODERES ESPECIALES: a.- Se confiere poder especial amplio y suficiente a las personas que se

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determinan seguidamente, que conforman el grupo A y B, para, para que conjuntamente suscriban contratos de suministros de mercancías y servicios con entidades oficiales, hasta la suma de OCHOCIENTOS MIL DOLARES DE LOS ESTADOS UNIDOS DE AMERICA (US800.000.00), ----- liquidados a la tasa representativa del mercado vigente en el día que se realice la respectiva transacción. Grupo A. WALTER NANAKA TATEKAWA CC.No.16.251.923, CLAUDIA TANGARIFE CASTILLO ----- CC.No.41.660.293, CARMEN ALICIA FLOREZ CC.No.22.434.044, IVAN ----- VILLAREAL CAMACHO CC.No.91.201.749, CARMEN ALICIA HERRERA ----- DIAZGRANADOS CC.No.22.377.540, DAVID ANTONIO CHARRIS GIRALDO ----- CC.No.19.341.274, RICARDO DORADO HURTADO CC.No.79.715.772, JAIME FORERO LLINAS CC.No.19.300.593. b.- Se confiere poder especial ----- amplio y suficiente al señor WILLIAM ALBERTO BARROS CERRA ----- CC.No.8.715.941, para que en nombre y representación de PROCAPS ----- S.A., suscriban declaraciones cambiarias, aduaneras y tributarias a que este obligada la sociedad, en el giro normal de sus negocios y operaciones sociales, por tanto quedan facultados para firmarlas, como tambien los demas documentos relacionados con ellas, ----- notificarse, aportar y solicitar las pruebas que sean necesarias. c.-Otorgar poder especial amplio y suficiente al señor MARLON ----- TATIS PAREDES CC.No.72.176.874 y al señor WILLIAM ALBERTO BARROS CERRA CC.No.8.715.941, para que en nombre y representación de ----- PROCAPS S.A., suscriban las declaraciones, reportes y cualquier documento relacionado con los tramites o registros de Comercio ----- Exterior y o cualquier entidad del Estado que haga sus veces: d) Otorgar poder especial amplio y suficiente a la doctora CARMEN ----- ALICIA HERRERA DIAZGRANADOS, CC.No.22.377.540 y al doctor WALTER TANAKA TATEKAWA, CC.No.16.251.923, para que en nombre y ----- representación de PROCAPS S.A.; endosen los titulos valores de la sociedad hasta por la suma de UN MIL MILLONES DE PESOS ----- (1.000.000.000.00) M.L. CUARTO: EI representante legal de la ----- sociedad PROCAPS S.A.; doctor RUBEN MINSKI GONTOVNIK, manifiesta que la presente reforma fue aprobada por la Asamblea General ----- Extraordinaria de Accionista de PROCAPS S.A., con observancia de las disposiciones legales y estatutarias.-----

C E R T I F I C A

Que por Escritura Pública No. 1,933 del 16 de Sep/bre de 2008, otorgada en la Notaria 2.a. de Barranquilla cuya parte pertinente se inscribió en esta Cámara de Comercio, el 06 de Octubre de 2008 bajo el No. 3,748 del libro respectivo,-----
Consta que el señor RUBEN MINSKI GONTOVNIK, C.C. No. 7.463.982, que comparece en su condicion de Presidente y Representante Legal de la Sociedad PROCAPS S.A., confiere por medio de este instrumento -----

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PROCAPS S.A.-----

NIT: 890.106.527-5.-----

publico Poder especial Amplio y Suficiente a la doctora MILENA -----
ESCAFFI PARDO, C.C. No. 32.758.420, para que en nombre y -----
representacion de PROCAPS S.A., suscriba declaraciones cambiarias,
aduaneras y tributarias a que este obligada la sociedad en el giro
normal de sus negocios y operaciones sociales, por tanto queda -----
facultada para firmar, como tambien los demas documentos -----
relacionados con ellas, notificarse, aportar y solicitar las -----
pruebas que sean necesarias.-----

C E R T I F I C A

Que por Documento Privado del 09 de Abril de 2010, otorgado en
Barranquilla inscrito en esta Cámara de Comercio, el 20 de Abril de
2010 bajo el Nro 4,201 del libro respectivo,-----
Consta que el señor RUBEN MINSKI GONTOVNIK, C.C. No. 7.463.982, ----
quien obra en el caracter de Presidente y/o Representante legal de
la sociedad PROCAPS S.A., que por medio de este instrumento -----
publico, otorga Poder Especial Amplio y Suficiente a la Doctora ----
MONICA DE HART DE OCHOA, identificada con C.C. No. 32.676.025, para
que en nombre y representacion de la sociedad, Endose las Facturas
Nacionales e Internacionales hasta por la suma de UN MIL MILLONES DE
PESOS (\$1.000.000.000.00)M.L. La doctora Monica de Hart de Ochoa,
queda facultada para realizar todo acto o tramite necesario para el
cabal cumplimiento del presente mandato.-----

C E R T I F I C A

Que por Documento Privado del 10 de Junio de 2010, otorgado en
Barranquilla inscrito en esta Cámara de Comercio, el 13 de Julio de
2010 bajo el Nro 4,228 del libro respectivo,-----
consta que el señor RUBEN MISNKI GONTOVNIK, cc. No. 7.463.982 en su
condicion de Presidente y representante legal de PROCAPS S.A., ----
confiere poder especial, amplio y suficiente al señor RICARDO DORADO
HURTADO cc. No. 79.715.772 para que represente a la sociedad, ante
el INVIMA, Fondo Nnacional de estupefacientes e ICA, con el fin que
gestione, tramite o presente las diferentes solicitudes y -----
peticiones de la empresa, segun la competencia de estas entidades.
Por lo anterior, el Señor RICARDO DORADO HURTADO, queda facultado
para presentar, gestionar, tramitar y firmar las diferentes -----
solicitudes y peticiones de la empresa, segun la competencia de ----
estas entidades, como tambien presentar y firmar todo los -----
documentos relacionados con estas solicitudes, notificarse de -----
cualquier acto administrativo que expidan, aportar y solicitar las
pruebas que sean necesarias, desistir, y en general a realizar todo
tramite o acto necesario de tal forma que la sociedad en ningun ----
momento quede sin representacion legal ante estas entidades, en ----
cumplimiento fiel al mandato otorgado.-----

C E R T I F I C A

Que por Documento Privado del 03 de Agosto de 2010, otorgado en
Barranquilla inscrito en esta Cámara de Comercio, el 24 de Agosto
de 2010 bajo el Nro 4,258 del libro respectivo,-----

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consta que RUBEN MINSKI GONTOVNIK, varón, mayor de edad, de ésta vecindad, identificado con la cédula de ciudadanía No.7.463.982, expedida en Barranquilla, en mi condición de Representante legal y/o Presidente de la sociedad PROCAPS S. A., conforme a las ----- facultades otorgadas por los Estatutos Sociales, todo lo cual ----- demuestro con el certificado de existencia y representación legal expedido por la Cámara de Comercio de Barranquilla, que adjunto a este escrito, me permito manifestarles que confiero poder especial, amplio y suficiente al señor MARIO LÓPEZ LEON, varón, mayor de ----- edad, de esta vecindad, identificado con la cédula de ciudadanía No.72.311.558, expedida en Puerto Colombia (Atlántico), para que en nombre y representación de la sociedad, realice los siguientes ----- actos: 1. Endosar las Facturas Nacionales e Internacionales de esas compañías hasta por la suma de UN MIL MILLONES DE PESOS ----- (\$1.000.000.000.00) Moneda Legal. 2. Suscribir Declaraciones ----- Cambiarias, Aduaneras y Tributarias a las que esta obligada la ----- sociedad en el giro ordinario de sus negocios, quedando facultado para notificarse, aportar y solicitar pruebas relacionados con las declaraciones Cambiarias. El señor MARIO LÓPEZ LEÓN, queda ----- facultado para notificarse, aportar y solicitar pruebas, presentar escritos en caso que resulte necesario en general a realizar todo acto, diligencia o tramite que considere indispensable para el ----- cabal cumplimiento del presente mandato.-----

C E R T I F I C A

Que por Documento Privado del 07 de Mayo de 2012, otorgado en Barranquilla inscrito en esta Cámara de Comercio, el 01 de Junio de 2012 bajo el Nro 4,813 del libro respectivo,----- consta que el señor RUBEN MINSKI GONTOVNIK, identificado con ----- C.C.7.463.982 de Barranquilla, en mi condición de Representante ---- Legal y/o Presidente de la sociedad PROCAPS S.A., conforme a las facultades otorgadas por los Estatutos Sociales, me permito ----- manifestarles que confiero poder especial, amplio y suficiente a MONICA DE HART DE OCHOA, identificada con C.C.32.676.025, para que en nombre y representación de la sociedad, realice operaciones de carácter Financiero con la firma conjunta de un(1)miembro del Grupo A y un(1)miembro del Grupo B o dos(2)miembros del Grupo A, sin ----- perjuicios de las facultades otorgadas anteriormente a algunos de los funcionarios e inscritas en la Cámara de Comercio de esta ----- ciudad, como determino: -----
GRUPO A -----
1. Monica De Hart De Ochoa -----
C.c. No. 32.676.025 -----
2. Javier Otero Arteaga -----

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PROCAPS S.A.

NIT: 890.106.527-5.

C.C. No. 91.263.993

3. Gethel Moreno Romero

C.C. No.32.689.958

GRUPO B

Marcela carvajalino Pagano

C.C. 22.579.748

Walter Tanaka Tatekawa

C.C. 16.251.923

Alain Cortesi Brunner

Cedula Extranjeria 215404

a) Transferencias Bancarias entre cuentas de titularidad de PROCAPS S.A., hasta por la suma de USD 5000.000.00. b) Venta de cartera de PROCAPS S.A., hasta por la suma de USD 500.000.00. c) Suscripción de Contratos de Leasing, hasta por la suma de \$500.000.000.00.m.1.-----

C E R T I F I C A

Que por Documento Privado del 07 de Mayo de 2012, otorgado en Barranquilla inscrito en esta Cámara de Comercio, el 01 de Junio de 2012 bajo el Nro 4,814 del libro respectivo,-----
consta que el señor RUBEN MINSKI GONTOVNIK, identificado con-----
C.C.7.463.982 de Barranquilla, en mi condición de Representante ----
Legal y/o Presidente de la sociedad PROCAPS S.A., conforme a las
facultades otorgadas por los Estatutos Sociales, me permito -----
manifestarles que confiero poder (especial, amplio y suficiente a
JAVIER OTERO ARTEAGA, identificado con C.C. 91.263.993, para que ---
en nombre y representación de la sociedad, realice operaciones de
carácter Financiero con la firma conjunta de un(1)miembro del Grupo
A y un(1)miembro del Grupo B o dos(2)miembros del Grupo A, sin ----
perjuicios de las facultades otorgadas anteriormente a algunos de
los funcionarios e inscritas en la Cámara de Comercio de esta ----
ciudad, como determino: -----

GRUPO A

1. Monica De Hart De Ochoa

C.c. No. 32.676.025

2. Javier Otero Arteaga

C.C. No. 91.263.993

3. Gethel Moreno Romero

C.C. No.32.689.958

GRUPO B

Marcela carvajalino Pagano

C.C. 22.579.748

Walter Tanaka Tatekawa

C.C. 16.251.923

Alain Cortesi Brunner

Cedula Extranjeria 215404

a) Transferencias Bancarias entre cuentas de titularidad de PROCAPS S.A., hasta por la suma de USD 5000.000.00. b) Venta de cartera de PROCAPS S.A., hasta por la suma de USD 500.000.00. c) Suscripción de Contratos de Leasing, hasta por la suma de \$500.000.000.00.m.1.-----

C E R T I F I C A

***** C O N T I N U A *****

No. 17652939

03-12020458 024802 PROCAPS S.A.

Barranquilla, 05 de Julio de 2012

Hr:16:28:29



***** Pag. 7
 C A M A R A D E C O M E R C I O
 D E B A R R A N Q U I L L A
 07*****

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O DE INSCRIPCION DE DOCUMENTOS.

PROCAPS S.A.-----
 NIT: 890.106.527-5.

Que por Documento Privado del 07 de Mayo de 2012, otorgado en Barranquilla inscrito en esta Cámara de Comercio, el 01 de Junio de 2012 bajo el Nro 4,815 del libro respectivo,-----
 consta que el señor RUBEN MINSKI GONTOVNIK, identificado con -----
 C.C.7.463.982 de Barranquilla, en mi condición de Representante ----
 Legal y/o Presidente de la sociedad PROCAPS S.A., conforme a las
 facultades otorgadas por los Estatutos Sociales, me permito -----
 manifestarles que confiero poder especial, amplio y suficiente a
 GETHEL MORENO ROMERO, identificada con C.C.32.689.958, para que ----
 en nombre y representación de la sociedad, realice operaciones de
 carácter Financiero con la firma conjunta de un(1)miembro del Grupo
 A y un(1)miembro del Grupo B o dos(2)miembros del Grupo A, sin ----
 perjuicios de las facultades otorgadas anteriormente a algunos de
 los funcionarios e inscritas en la Cámara de Comercio de esta -----
 ciudad, como determino:-----

GRUPO A

1. Monica De Hart De Ochoa

C.c. No. 32.676.025

2. Javier Otero Arteaga

C.C. No. 91.263.993

3. Gethel Moreno Romero

C.C. No.32.689.958

GRUPO B

Marcela carvajalino Pagano

C.C. 22.579.748

Walter Tanaka Tatekawa

C.C. 16.251.923

Alain Cortesi Brunner

Cedula Extranjeria 215404

a) Transferencias Bancarias entre cuentas de titularidad de PROCAPS S.A., hasta por la suma de USD 5000.000.00. b) Venta de cartera de PROCAPS S.A., hasta por la suma de USD 500.000.00. c) Suscripción de Contratos de Leasing, hasta por la suma de \$500.000.000.00.m.l.-----

C E R T I F I C A

Que por Documento Privado del 07 de Mayo de 2012, otorgado en Barranquilla inscrito en esta Cámara de Comercio, el 01 de Junio de 2012 bajo el Nro 4,816 del libro respectivo,-----
 consta que el señor RUBEN MINSKI GONTOVNIK, identificado con -----
 C.C.7.463.982 de Barranquilla, en mi condición de Representante ----
 Legal y/o Presidente de la sociedad PROCAPS S.A., conforme a las
 facultades otorgadas por los Estatutos Sociales, me permito -----
 manifestarles que confiero poder especial, amplio y suficiente a
 MARCELA CARVAJALINO PAGANO, identificada con C.C.22.579.748, para

***** C O N T I N U A *****

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O DE INSCRIPCION DE DOCUMENTOS.

PROCAPS S.A. -----
NIT: 890.106.527-5. -----

que en nombre y representación de la sociedad, realice operaciones de carácter Financiero con la firma conjunta de un(1)miembro del Grupo A y un(1)miembro del Grupo B o dos(2)miembros del Grupo A, sin perjuicios de las facultades otorgadas anteriormente a algunos de los funcionarios e inscritas en la Cámara de Comercio de esta ----- ciudad, como determino: -----

GRUPO A -----

1. Monica De Hart De Ochoa -----

C.C. No. 32.676.025 -----

2. Javier Otero Arteaga -----

C.C. No. 91.263.993 -----

3. Gethel Moreno Romero -----

C.C. No.32.689.958 -----

GRUPO B -----

Marcela carvajalino Pagano -----

C.C. 22.579.748 -----

Walter Tanaka Tatekawa -----

C.C. 16.251.923 -----

Alain Cortesi Brunner -----

Cedula Extranjeria 215404 -----

a) Transferencias Bancarias entre cuentas de titularidad de PROCAPS S.A., hasta por la suma de USD 5000.000.00. b) Venta de cartera de PROCAPS S.A., hasta por la suma de USD 500.000.00. c) Suscripción de Contratos de Leasing, hasta por la suma de \$500.000.000.00.m.1. -----

Que por Documento Privado del 07 de Mayo de 2012, otorgado en Barranquilla inscrito en esta Cámara de Comercio el 01 de Junio de 2012 bajo el Nro 4,817 del libro respectivo, -----

consta que el señor RUBEN MINSKI GONTOVNIK, identificado con ----- C.C.7.463.982 de Barranquilla, en mi condición de Representante ---- Legal y/o Presidente de la sociedad PROCAPS S.A., conforme a las facultades otorgadas por los Estatutos Sociales, me permito ----- manifestarles que confiero poder especial, amplio y suficiente a WALTER TANAKA TATEKAWA, identificado con C.C.16.251.923, para que en nombre y representación de la sociedad, realice operaciones de carácter Financiero con la firma conjunta de un(1)miembro del Grupo A y un(1)miembro del Grupo B o dos(2)miembros del Grupo A, sin ----- perjuicios de las facultades otorgadas anteriormente a algunos de los funcionarios e inscritas en la Cámara de Comercio de esta ----- ciudad, como determino: -----

GRUPO A -----

1. Monica De Hart De Ochoa -----

C.C. No. 32.676.025 -----

2. Javier Otero Arteaga -----

C.C. No. 91.263.993 -----

3. Gethel Moreno Romero -----

C.C. No.32.689.958 -----

GRUPO B -----

Marcela carvajalino Pagano -----

C.C. 22.579.748 -----

Walter Tanaka Tatekawa -----

***** C O N T I N U A *****



CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O DE INSCRIPCION DE DOCUMENTOS.
PROCAPS S.A.-----
NIT: 890.106.527-5.-----

C.C. 16.251.923 -----
Alain Cortesi Brunner -----
Cedula Extranjeria 215404 -----
a) Transferencias Bancarias entre cuentas de titularidad de PROCAPS S.A., hasta por la suma de USD 5000.000.00. b) Venta de cartera de PROCAPS S.A., hasta por la suma de USD 500.000.00. c) Suscripción de Contratos de Leasing, hasta por la suma de \$500.000.000.00.m.1.-----

C E R T I F I C A

Que por Documento Privado del 07 de Mayo de 2012, otorgado en Barranquilla inscrito en esta Cámara de Comercio, el 01 de Junio de 2012 bajo el Nro 4,818 del libro respectivo,-----
consta que el señor RUBEN MINSKI GONTOVNIK, identificado con -----
C.C.7.463.982 de Barranquilla, en mi condición de Representante ----
Legal y/o Presidente de la sociedad PROCAPS S.A., conforme a las
facultades otorgadas por los Estatutos Sociales, me permito -----
manifestarles que confiero poder especial, amplio y suficiente a
ALAIN CORTESI BRUNNER, identificado con C.C.215404, para que -----
en nombre y representación de la sociedad, realice operaciones de
carácter Financiero con la firma conjunta de un(1)miembro del Grupo
A y un(1)miembro del Grupo B o dos(2)miembros del Grupo A, sin ----
perjuicio de las facultades otorgadas anteriormente a algunos de
los funcionarios e inscritas en la Cámara de Comercio de esta -----
ciudad, como determino: -----

- GRUPO A -----
1. Monica De Hart De Ochoa -----
C.c. No. 32.676.025 -----
2. Javier Otero Arteaga -----
C.C. No. 91.263.993 -----
3. Gethel Moreno Romero -----
C.C. No.32.689.958 -----

- GRUPO B -----
Marcela carvajalino Pagano -----
C.C. 22.579.748 -----
Walter Tanaka Tatekawa -----
C.C. 16.251.923 -----
Alain Cortesi Brunner -----

Cedula Extranjeria 215404 -----
a) Transferencias Bancarias entre cuentas de titularidad de PROCAPS S.A., hasta por la suma de USD 5000.000.00. b) Venta de cartera de PROCAPS S.A., hasta por la suma de USD 500.000.00. c) Suscripción de Contratos de Leasing, hasta por la suma de \$500.000.000.00.m.1.-----

C E R T I F I C A

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O DE INSCRIPCION DE DOCUMENTOS.

PROCAPS S.A.

NIT: 890.106.527-5.

Que en esta Cámara de Comercio no aparecen inscripciones posteriores de documentos referentes a reforma, disolución, liquidación o nombramientos de representantes legales de la expresada sociedad.

C E R T I F I C A

Que su última Renovación fue el: 22 de Marzo de 2012.

La información sobre embargos de establecimiento se suministra en Certificados de Matrícula, la de contratos sujetos a registro, en Certificados Especiales.

C E R T I F I C A

De conformidad con lo establecido en el Código de Procedimiento Administrativo y de lo Contencioso y de la Ley 962 de 2005, los Actos Administrativos de Registro aquí certificados quedan en firme Diez (10) días hábiles después de la fecha de inscripción, siempre que no sean objeto de recursos.

