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Señora Jefe de la
DIVISION DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 06-056310- -00004-0000

Fecha: 2008-07-15 16:57:02 Dep. 2020 NUECREACION
Tra. 11 PATENTEIYII Eve: 379 FASENACIONALII
Act. 538 PETICION Folios: 2

Trámite : 011
Evento : 379
Actuación : 538

Referencia : Expediente No. 06.056.310
Asunto : Solicitud de Patente para **COMPOSICION PARA USO
TOPICO CONTENIENDO EXTRACTO DE LA PLANTA
DEL GENERO STRYPHODENDRON, SU PROCESO
DE PREPARACION Y SU APLICACION**
Solicitante : **AERP ASSOCIACAO DE ENSINO DE RIBEIRAO
PRETO Y APSEN FARMACEUTICA S.A.**
Clase : A61K 035/078
Publicada en : La Gaceta No. 587 Del 18 de enero de 2008
Fecha de Solicitud : 9 de junio de 2006

1. Yo, Emilio FERRERO, identificado como aparece al pie de mi firma, actuando como apoderado en el asunto de la referencia, atentamente, solicito se efectúe el examen de patentabilidad de la solicitud en referencia presentada de acuerdo con el Capítulo II del PCT y según lo establecido en el artículo 44 de la Decisión 486 de la Comisión de la Comunidad Andina. Para tal efecto presento junto con este escrito el recibo por valor de \$210.000.00, que corresponde a la tasa fijada según lo dispuesto en la resolución No. 44372 de 26 de diciembre de 2007.

2. Ruego atentamente a la Señora Jefe se sirva ordenar que se anexe este recibo para que se efectúe dicho examen y se continúe con el trámite de la solicitud.

Señora Jefe,

EMILIO FERRERO
T.P.A. No. 31.929

COLO-15405-841-001-5
ASGJGG\ID-130360\WPC15405
No. M-2008-130360\ASG

NIT 860.041.367-3

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 06-056310- -00004-0000

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 900176089-2

BO OFICIAL DE CAJA : 08 - 45,938
FECHA : JUNIO 9 DE 2008

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO DE BOGOTA	062754387	2678328	09/06/2008	89,445,000.00

***** CONCEPTO *****

CANAL	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
50005-01-01	SOLICITUDES	114 PTC CAP-II EXAMEN DE PATENTIBILID	210,000.00
		TOTAL :	\$ 210,000.00

SDN: DOSCIENTOS DIEZ MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

606 15405-841-0015

DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 06-56310

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **587** DE

FECHA **18 DE ENERO DE 2008** EL TÉRMINO HÁBIL SEÑALADO POR LA LEY

EXPIRA EL **16 DE ABRIL DE 2008**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO X

Research note

Micropropagation of *Stryphnodendron polyphythum* (Barbatimão)

Suzelei C. França, Ines B. Duarte, Rita M. Moraes & Ana M.S. Pereira
University of Ribeirão Preto, Department of Plant Biotechnology 14096–380 São Paulo, Brazil

Received 22 August 1994; accepted in revised form 21 June 1995

Key words: Tissue culture, medicinal plant, wound healing agent

Abstract

Stryphnodendron polyphythum Mart., popularly known as Barbatimão, is a native Brazilian tree widely used in folk medicine as a wound healing agent. Cotyledonary node segments were placed on Murashige and Skoog (MS) medium supplemented with different types and concentrations of cytokinins. The medium that gave best shoot proliferation contained $13.3 \mu\text{M}$ 6-benzyladenine (BA). However, MS supplemented with $0.04 \mu\text{M}$ BA and $0.005 \mu\text{M}$ indole-3-acetic-acid enhanced shoot length. Root formation was best on shoots inserted into medium with half-strength macronutrients supplemented with $5.37 \mu\text{M}$ naphthaleneacetic acid and 80 mg l^{-1} phloroglucinol.

Stryphnodendron polyphythum Mart. (Mimosoideae), popularly known as Barbatimão, is a leguminous tree native to scrub-land regions (savannah-like vegetation) of Brazil and widely used in folk medicine to heal wounds.

Rapid and progressive deforestation is endangering several plant species. Goodland (1979) stated that forest regions inside scrub-land are preferable for agricultural exploitation due to the occurrence of areas with fertile soil. Moreover, basic studies on the physiology, morphology, photochemistry and conventional propagation techniques of most of these species are being conducted very slowly.

The objective of this study was to develop a micro-propagation protocol for *S. polyphythum*, which is popularly known for containing in its bark a sap which acts like a potent wound healing agent.

Seeds of *Stryphnodendron polyphythum* were collected in September, 1992, from scrub-land near the city of Sacramento, state of Minas Gerais, Brazil, and placed to germinate *in vitro* in glass jars ($45 \times 95 \text{ mm}$) on semi-solid MS medium, closed with aluminum foil or *ex vitro* in plastic pots ($40 \times 100 \text{ mm}$) in sand kept in a greenhouse. After 30 days, only seeds germinated in sand under non-sterile conditions inside the greenhouse produced seedlings with uniform growth (5 cm high). Cotyledonary node segments from

these plants were used as initial explants. Explants were surface disinfested with 0.1% (w/v) benomyl plus 0.5% (v/v) Tween 20 for 30 min, 70% ethanol for 40 sec. and 0.1% (w/v) sodium hypochlorite for 15 min. Surface disinfested explants were then inoculated on basic MS medium (Murashige & Skoog 1962) supplemented with 3% (w/v) sucrose and 0.7% (w/v) Difco Bacto-agar. After 30 days, explants were transferred to different media supplemented with growth regulators as described below. In all experiments the explants were inoculated in glass test tubes ($22 \times 85 \text{ mm}$) each containing 5 ml of medium and closed with polypropylene closures (Bellco). The pH was adjusted to 5.7 (except for the experiment concerning the influence of pH on shoot height and shoot formation) and autoclaved at 121°C and 98 kPa for 15 min. The test tubes were sealed with plastic film and exposed to a 16-h photoperiod ($40 \mu\text{mol m}^{-2} \text{ s}^{-1}$, 85 W cool-white GE fluorescent lamps) at $25 \pm 2^\circ\text{C}$. In all experiments, observations were made after 30 days of subculture. In shoot formation experiments the explants were transferred to MS medium supplemented with different cytokinins, 6-benzyladenine (BA), 2-isopentyladenine (2ip) or 6-[4-hydroxy-3-methyl-cis-2-butenylamino] purine (zeatin), which were added individually at various concentrations (0.04, 2.2, 4.4, 13.3 or $44.4 \mu\text{M}$). The effect of indole-3-acetic-acid

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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : A61K 35/78	A1	(11) International Publication Number: WO 97/37673 (43) International Publication Date: 16 October 1997 (16.10.97)
(21) International Application Number: PCT/CA96/00204 (22) International Filing Date: 4 April 1996 (04.04.96) (71) Applicant (for all designated States except US): CENSAYM INC. [CA/CA]; Building 11, Suite 400, 5045 Orbitor Drive, Mississauga, Ontario L4W 4Y4 (CA). (72) Inventors; and (75) Inventors/Applicants (for US only): MELCHOR ORTA, Gleiby de la Caridad [CU/CU]; Avenida 5 no. 1621 e/16y 18, Jaruco, Habana (CU). SÁNCHEZ PERERA, Luz Maria [CU/CU]; Calle 164 A no. 307 e/3Ay3B, Zonal, Alamar, Ciudad de la Habana (CU). ARMENTEROS AMAYA, Mabelin [CU/CU]; Calle 74 no. 9926, Guines, Habana (CU). GINORIO FERNÁNDEZ, Maria Caridad [CU/CU]; Calle 42 no. 112 apartamento 4e/1Ay3A, Miramar, Ciudad Habana (CU). (74) Agent: MacRAE & CO.; P.O. Box 806, Station B, Ottawa, Ontario K1P 5T4 (CA).	(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published With international search report. With amended claims and statement.	

(54) Title: PHARMACEUTICAL FORMULATIONS OF *RHIZOPHORA MANGLE* L

(57) Abstract

This invention is related to formulations which active principles are obtained from the bark of *Rhizophora mangle* L and its uses in veterinary and human medicine as cicatrizant agent and mammary desinfectant and others like antiseptic in general.

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Pharmaceutical formulations of Rhizophora mangle L

Background of the invention.

The present invention is related with two pharmaceutical formulations which active principles are of vegetal origin and as a second point, its uses; therapeutical and prophylactic in veterinary and human medicine. In both cases there are no antecedents of the uses of these active principles of Rhizophora mangle L as formulated medicaments with the purpose as those described in the present invention.

This plant is well known in Cuba as **Mangle Rojo**; **Mangle zapatero** or **Mangle colorado** in Puerto Rico; **Mangrove** in Florida and the Antillas of english language and **Mangle colorado** also in Mexico, Panamá, Guatemala and Venezuela. There are reports particularly in Cuba of the use of its bark as astringent and to avoid haemoptysis. By the other hand, during some time it was often spoken of its uses against the leprosy with clear examples of its applications in these cases (Roig, 1974).

The two formulations of the invention contain as distinctive chemical constituents, tanins as iron complexes which confere the redish colour to the vegetal and its solutions; proteins, alcaloids and minerals (calcium, manganese, phosphorus, magnesium zinc and free iron) which indicates a synergic effect of all the elements present in conferring the action to the product, particularly the cicatrizant effect, compared with the tanic acid and other vegetal tanins that majoritary confere the woundes astringency.

When a comparisson of the cicatrizant effect of one of the formulations with another product for similar purposes and chemically obtained was done, it was demonstrated higher results due to the acceleration in a quick way and with better effectivity of the cicatrizant process.

The formulation that shows desinfectant properties was tested in post milking mammary washes in the mastitis prevention, because of the effect that produces when it forms a protector seal that avoids the presence of microorganisms like Staphilococcus aureus, Streptococcus agalacteeae, point that makes the differences with the other conventional mammary desinfectants, which reports don't evidence this effects. When the bactericide activity, according the technique of Daguet and Chabbert (1972) was done, it was observed that from the concentration of 8 mg/ml on, the formulation was capable of inhibit the growing of the major provoking bovine mastitis pathogens mentioned before.

The mammary desinfectant formulation was used by immersion of the milking cow teats in 5 mL of the product, showing "in vitro" effectivity at 10 minutes of being

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applied in accord with other tested mammary disinfectants. A reduction of 82,3% and 40,7% for *Streptococcus agalactiae* and *Staphylococcus aureus*, respectively, was obtained in natural conditions, which meets the requirements of the National Mastitis Council, when catalogue a mamary disinfectant as efficient.

In the particular case of the mastitis prophylaxis the chemical mammary disinfectants hold also a big residuality as in the case of the ammonium-carbamide based and the iodine solutions (iodophorous). The water solubility of the present formulation guarantees its total disappearance from the udder, which results very useful for a product like this.

The formulations, besides the therapeutic effects, also have as a characteristic, a low production costs and low levels of residuality or undesirable secondary effects, which give to the products advantage over other medicaments.

According to the formulation, in the case of the cicatrizant the method of treatment includes the topic application over all the affected zone as well in open woundes of traumatic origin as in surgical suturs, during five days with a frequency of once in a day, some times requiring two daily applications in the same interval of time in the most severe cases, no matter the animal species, weight or age. This dosage regime is valid for the treatment of woundes and also in the omphalitis. The use of this formulation as antiseptic in general may also include the treatment of any infection of the mucouses and those produced by fungi. Working with isolated guinea pig uterus, the beneficial effect on the uterine smooth motility was evidenced, which contributes to shorten the therapeutic fase by the easier evacuation of puerperal tissular detritus.

The effectivity studies in experimentation animals show positive and independents effects as well in the antiseptic as in the cicatrizant action, which result very profitable for the security they offer also in the human use.

The following examples show the effectivity of the formulations described in the present invention:

Example No. 1

Obtainment of the formulations

The barks of *Rhizophora mangle* L are triturated in a mill and subjeti to an extraction process with watery solvents, using a double inoxidizable steel reactor (AISI-316, Tecalsa Resco of 250 L of capacity with anchor agitation system) to a velocity of 32-185 rpm, working preasure of 3-8 bar⁻¹, temperature of 90-100 °C and time of 15-35 minutes. The obtained extract is vacuous filtered and is concentrated in a smalted reactor (3009, De Dietrich)) to a third of the initial volume; determining the dry matter concentration and depending of the obtained

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value the desired concentrations are regulated according to the type of formulation to be prepared. Subsequently the necessary quantities of excipients are added for each formulation to obtain according its uses and the pH is tested being in a range of 4-6.

The cicatrizant and antiseptic formulations are prepared with a concentration of 1,5 to 3,0% of dry matter obtained from the vegetal material suitably mixed with an alcoholic solution of methyl-p-hydroxibenzoate 0,18-0,25% and propyl-p-hydroxibenzoate 0,02-0,05%. Also propilenglycol 10-15% as stabilizer is added.

The desinfectant formulation is prepared with a concentratin of 3,0 to 4,5% of dry matter obtained from the vegetal material in a aqueous vehicle, suitably mixed with an alcoholic solution of methyl-p-hydroxibenzoate and propyl-p-hydroxibenzoate to the same concentrations before mentioned, using in this case glycerin or sorbitol 10-15% as stabilizer and/or for moistening the udder.

Example No. 2

Application of the cicatrizant formulation in open and closed woundes

The experiment was made in rabbits and calves. In the rabbit case the work was done with clinically healthy and controlled animals. They were divided into two groups, provoking to them woundes in the lumbar region in both sides of the spine. One of the woundes was sutured and the other was kept open. In one group the formulation was applied topically every day once in a day during 21 days and to the other group only sterile bidestilated water as excipient of the solutions.

It was controlled the cutaneous reaction around the wound, inflammatory reactions, evolution of the woundes into dry or with secretions, coaptation of the edges of the open woundes, time of complete cicatrization, type of cicatrization (for the first or second intention). Also the histopathologic evaluation of the open and closed woundes was done by the biopsy of their skin. In all cases the statistical evaluation of the data obtained was done.

In the case of the calves the procedure was similar but in this case three woundes were made in the dorsum lumbar region, all open.

In the experiment with rabbits was observed that the cicatrizant formulation treated woundes, had a slight inflammatory reaction, no infection was present and were dry, with coaptation of the edges stimulated since the 14 days. All of them cicatrized totally for the first intention at 21 days. The sutured closed woundes did not present visible changes. Tha analysis of the lenght and width of the woundes demonstrated continue progressive disminution for those treated with the formulation as this was slower in the control group during the first 14 days. The histological evaluation demonstrate a beneficiary effect in the cicatrization for the

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treated animals respect to the control group, evidencing the neoformation of the histoarchitecture of the skin with a greater presence of collagen, fibroblasts and the apparition of haemocapillars. The results in calves were very similar to the described above.

Example No. 3

Effect in the prevention of umbilical infections in the calf.

In a dairy with high incidence of umbilical infections, were studied 90 newborn Holstein calves divided into three experimental groups of 30 animals each. The cicatrizant formulation of Mangle Rojo and Lugol (a 5% iodated desinfectant) were used during 5 consecutive days, leaving a control group without treatment. The results showed a high protection in the treated animals, without significant differences between the use of the formulation and Lugol. In the control group 46.7% of the animals were sick with omphalitis, omphaloarthritis and urakitis, which showed statistical differences ($p < 0.05\%$) when compared with the treated ones. The involved agents were *Corynebacterium piogenes*, *Streptococcus sp.* and *Staphylococcus sp.*

With identical purposes 29 cattle units and a total of 484 Holstein calves and its crossbreeds were tried. The experiment lasted 10 months and the animals were divided in the same way than in the former case into three groups. The first group with 152 calves was treated with methylroseanilin 0,05%, the second with 209 animals with the cicatrizant formulation and the third with 123 animals was left as a control group and treated with a blank solution. A low index of umbilical infections was present in the calves treated as well with the Mangle Rojo formulation as with the methylroseanilin one, without statistical differences between them, while in the control group an incidence of 46,7% of umbilical infections was found ($p < 0.05\%$). The isolated microorganisms were the same as for the former case.

Example No. 4

Treatment of the bovine endometritis.

58 Holstein cows with puerperal endometritis were treated, divided into two equal groups. The first group was treated with the antiseptic formulation of Mangle Rojo and the other remained as a control treated with the blank solution. Three applications each 48 hours were applied and the gynecological and clinical diagnosis were made for the detection of uterine infections.

It was observed that the 79,3% of the animals treated with the formulation of Mangle Rojo were recovered in 7 days, while in the control group only 24% of the animals showed recovering ($p < 0.05\%$).

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Example No. 5

Evaluation as mammary desinfectant.

It is evaluated the possible irritating effect of the formulation in the teats of cows. The product was applied by dipping the teats in 5 mL immediately after the morning and afternoon milking, during 21 days according to the methodology proposed by Someville and Rose (1978).

20 white skin cows were used with healthy teats and udders, mechanically milked twice in a day, with equal regime of management and pasturing. The pH of the solutions were measured during the 21 days that last the experiment and the extent of the irritation of the teat skin at the beginning and during the application at the 7, 14 and 21 days. The readings were made based in the identification of slight, moderated and serious lesions and no reactions.

The 100% of the desinfected teats present neither visible alterations nor reject to the milking machine pointed of some adverse effect. It was observed the presence of a layer in the teat skin that lasts between milkings and disappears with the washing of the udder acting as a physical barrier to the pass of the microorganisms.

Example No. 6

"In vivo" evaluation as a desinfectant in controlled conditions.

Two herds of Holstein cows with the same handling, pasturing and mechanic milking in the morning and afternoon regime were used.

A control unit and another treated one were designed. The first was composed by 39 cows and was maintained during the 6 months of the experiment whitout the application of the final disinfection of the teats. The second one was conformed of 20 treated cows to which the formulation of Mangle Rojo was applied by immersion of the teats in 5 mL.

The clinical mastitis cases reported in the control dairy were 10, while in the disinfection treated one only 4 cases showed the disease where no cases of significant changes in the tissular structure of the teat were present.

The statistical analysis of the data showed significant differences ($p \leq 0.01$) between both units. The percent of reduction for *Streptococcus agalactiae* was 82,3% and for *Staphylococcus aureus* 40,7%. The percent of reduction for the major pathogens reached 58,3%. This result with *Streptococcus agalactiae* when is compared with the values of 60,7%, 61,5% up to 66,4% obtained with iodated desinfectants in different concentrations (Boddie and col., 1990; Oliver and col.,

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1991), and others performed before with Chlorhexidine gluconate where the response reached 68,1%, can be evaluated as adequate under the controlled conditions. Related with *Staphylococcus aureus* the results meet the requirements established by the National Mastitis Council where a 40% of efficacy for a disinfectant is accepted.

Example No. 7

Effect in the treatment of diverse pathologies in humans.

Toxicological studies defining the innocuity of the obtained formulations were done in the present invention. The dermic and oral acute toxicology, the subchronic short-term toxicology, primary dermic irritability, and cutaneous sensitization were studied as well as mutagenic studies in experimentation animals and could be observed no adverse effects to the dosage levels of the active principles established in the formulations.

Starting from the background findings the antiseptic and cicatrizing formulations have been applied in the treatment of humans with domestic wounds (sutured or not), burnings of first and second degrees as well as in varicose ulcerations.

The studies in the antifungal effects "in vitro" and "in vivo" have corroborated the effectivity in the treatment of the dermic superficial mycosis.

By the other hand these formulations have been applied in the gynecologic clinic for vulvovaginitis, candidiasis and trichomoniasis, observing the 100% of effectivity.

Adjusting the therapeutic concentrations of the active principles to solid (pills) finished forms, an antiulcerating effect was obtained when the gastroduodenum pathologies were treated.

The comparison of one of the formulations, demonstrating the properties as cicatrizing with a similar product of chemical origin (Tannic acid), gentian violet and alcohol, shows better results (Table 1) provoking the acceleration of the cicatrizing process by the presence of a thin protector layer that is formed in the treated wounds where lesser inflammatory reactions, wound infection, presence of ulcers and a better coaptation of the edges, resulting in a complete and for the first intention cicatrization are presented. When the product based only of tannins was used, the layer formed was very thick and dense allowing the growing of infectious material with later ulcerating evolution.

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Table 1. Comparison of the clinical evolution of the woundes treated with the cicatrizant formulation and those treated with a similar of chemical procedence.

Measureings	Evolution days	Mangle formulations	Chemical Product	Signification
Cutaneous Reaction	1 to 21	0a	0a	NS
Moderated Inflammatory Reactions	1 to 21	4a	8a	NS
Infected woundes	1 to 21	3b	9a	$p < 0,05$
Presence of ulcers	1 to 21	2b	9a	$p < 0,01$
Formation of scabs	1 to 21	4b	14a	$p < 0,001$
Coaptation of edges	14	10a	2b	$p < 0,01$
	21	12a	5b	$p < 0,01$
Complete cicatrization	14	8a	0b	$p < 0,001$
	21	12a	5b	$p < 0,01$
Type of cicatrization	21			
	First Intention	12a	5b	$p < 0,01$
	Second Int.	2b	7a	$p < 0,05$

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**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIRECCIÓN DE NUEVAS CREACIONES**

2020
Bogotá, D.C.,

Abogado:
EMILIO FERRERO

ASUNTO:	Radicación No.	06 05 6310
	Trámite	002
	Evento	379
	Actuación	430
	Oficio	582
	Folios	

Como resultado del Examen de Fondo, realizado con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se comunica:

Documentos estudiados:

Descripción:	Folios 31 a 38 como fue presentada originalmente.
Reivindicaciones:	Folios 39 a 41 como fue presentada originalmente.
	Folios 68 a 70 como fue modificada en fase nacional.
Prioridad:	BR PI0305535-3 (11.11.2003)

Objeto de la Invención

Título de la invención: "Composición para uso tópico conteniendo extracto de planta del genero *Stryphnodendron*, su proceso de preparación y su aplicación"

Problema Técnico Planteado: "Necesidad de composiciones tópicas alternativas para el tratamiento de heridas cutáneas para humano o animales"

Solución: "Proporcionar composiciones tópicas que contienen extractos brutos o fraccionados de plantas del género *Stryphnodendron* para al tratamiento de heridas cutáneas, procesos de preparación y aplicaciones"

IPC: A61K 035/078

Se tiene en cuenta el capítulo reivindicatorio modificado para realizar el examen de patentabilidad.

Excepciones a la Patentabilidad (Art 20 D 486 literal d)

Las reivindicaciones 28 a 36 se refieren a un método de tratamiento por lo tanto se deben retirar del capítulo reivindicatorio.

Reivindicaciones relativas a un uso o a un segundo uso (Art 14 y 21 D 486)

Las reivindicaciones 19 a 27 se refieren al uso de del extracto de la planta para la fabricación de una composición tópica, por lo tanto deben ser retirados del capítulo reivindicatorio.

Determinación del Estado de la Técnica

El Estado de la Técnica se determinó con base en la fecha de presentación 2003.09.22 y se encontraron los siguientes documentos que anticipan el objeto de esta solicitud:

Item	Documento	Título	Fecha de Publicación
D1	Plant Cell, Tissue and Organ Culture	<i>Micropropagation of Stryphnodendron polyphythum</i>	21.jun.1995
D2	WO 97/37673	<i>Pharmaceutical formulations of Rhizophora mangle l</i>	16.oct.1997

Análisis de Patentabilidad (Art 14 D486)

Nivel Inventivo (Art18 D486)

La reivindicación 1 dice: "Composición tópica conteniendo extracto de la planta del genero *Stryphnodendron* caracterizada por contener la referida composición una cantidad desde 1% hasta 6% (w/w) de fenoles totales."

D1 revela que la especie vegetal *Stryphnodendron polyphythum*, conocida popularmente como Barbatimao, y es usada tradicionalmente para reparar las heridas cutáneas. Revela que es en la corteza de la planta donde se encuentra la sabia que contiene el agente activo.

La solicitud se diferencia de D1 en que el extracto está presente en una composición y la cantidad de fenoles totales que contiene, que a su vez expresa el contenido de taninos totales en la composición.

El Efecto Técnico que logra la diferencia es una mejora de la actividad reparadora de heridas.

El Problema Técnico Objetivo de esta solicitud es la necesidad de composiciones tópicas alternativas para el tratamiento de heridas cutáneas para humano o animales.

D2 presenta una composición farmacéutica con propiedades cicatrizantes en la cual se adicionan taninos a un extracto de herbal (portada). Revela que dichos taninos funcionan como astringentes para las heridas y que en combinación con los agentes propios del extracto de un agente herbal presentan una sinergia de su actividad cicatrizante. En efecto, revela que las composiciones que contienen extracto de agente herbal y taninos adicionados muestran un efecto acelerado y con mejor efectividad en el proceso de la cicatrización (página 1 y 6).

El experto en la materia habría sido motivado por D2 a adicionar taninos al extracto de la especie *Stryphnodendron* para la preparación de la composición

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farmacéutica capaz de aumentar la actividad cicatrizante sobre la piel y así obtener las composiciones reclamadas por la presente solicitud.

Se concluye que las reivindicaciones independientes 1 y 10 y sus dependientes carecen de nivel inventivo.

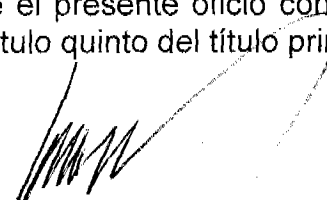
Conclusión

Los requisitos de Patentabilidad de la presente Solicitud se encuentran afectados así:

Nº	Documento	Reivindicaciones afectadas	Requisito que afecta
D1	Plant Cell, Tissue and Organ Culture	1-18	Nivel inventivo
D2	WO 97/37673	1-18	Nivel inventivo

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de 60 días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.


ALIX CARMENZA CÉSPEDES DE VERGEL
Directora de Nuevas Creaciones (C)

El anterior requerimiento fue notificado por fijación en lista, de fecha

22 de mayo de 2006

CONCEPTO TECNICO NUMERO: 4161	EXAMINADOR TÉCNICO Código:202092
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