

| INFORME DE BÚSQUEDA DE PATENTES                                                                                                                       |                                         |                                                                            |                                                                                                |                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------|
| N° de solicitud: NC2016/0001785                                                                                                                       |                                         | Fecha de determinación del estado de la técnica: 09 de marzo de 2014       |                                                                                                |                                                    |
| CRITERIOS PARA LA BÚSQUEDA (Anexar pantallazo o reporte en PDF, junto con los boléanos utilizados*. Para el caso de secuencias, anexar alineamientos) |                                         |                                                                            |                                                                                                |                                                    |
| PALABRAS CLAVE UTILIZADAS                                                                                                                             |                                         | AAV2 OR AVAV8 OR viral_vectors AND OTC OR hOTC AND composition*            |                                                                                                |                                                    |
| CLASIFICACIONES UTILIZADAS PARA LA BÚSQUEDA                                                                                                           |                                         | CIP: C07K 14/47, C12N 15/861, C12N 9/10, C12N 9/12, C12N 9/78, A61K 48/00. |                                                                                                |                                                    |
| DOCUMENTOS CONSIDERADOS RELEVANTES (documentos patentes, literatura no patente, etc...)                                                               |                                         |                                                                            |                                                                                                |                                                    |
| Informes/Base de datos                                                                                                                                | N° de solicitud/<br>Autor**             | Fecha de<br>Publicación/Presentación<br>(DD/MM/AAAA)                       | Reiv. afectadas (Con indicación, si procede, de las partes relevantes o números de secuencias) | Categorías especiales de los documentos citados*** |
| SIPI                                                                                                                                                  | No se encontraron documentos relevantes |                                                                            | -                                                                                              | -                                                  |
| ISA/IPEA (****)                                                                                                                                       | US2013259924                            | 03/10/2013                                                                 | 1 - 19                                                                                         | Y                                                  |
|                                                                                                                                                       | US2007015145                            | 18/01/2007                                                                 | -                                                                                              | A                                                  |
|                                                                                                                                                       |                                         |                                                                            | -                                                                                              |                                                    |
|                                                                                                                                                       | US2011184049                            | 28/07/2011                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Xuehai Ye, et al, 2001                  | 10/06/2011                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Hyo Jeong Kim, et al, 2011              | 01/01/2011                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Grzegorz Kudla, et al, 2006             | 01/06/2006                                                                 | -                                                                                              |                                                    |
| ISA/IPEA (****)<br>EPO                                                                                                                                | Lili Wang, et al, 2011                  | 31/10/2011                                                                 | -                                                                                              | A                                                  |
|                                                                                                                                                       | James M Wilson, et al 2011              | 25/10/2011                                                                 | -                                                                                              |                                                    |
| EPO                                                                                                                                                   | WO2013151666                            | 10/10/2013                                                                 | -                                                                                              | A                                                  |
|                                                                                                                                                       | Lili Wang, et al, 2011                  | 01/05/2011                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Lili Wang, et al, 2010                  | 01/01/2010                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Sharon C Cunningham, et al, 2009        | 01/08/2009                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Moscioni, et al, 2006                   | 01/07/2006                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Li Zhong, et al 2013                    | 23/01/2013                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Sanae Numata, et al, 2007               | 20/11/2007                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Saori Yamaguchi, et al, 2006            | 01/07/2006                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       | Spada Morrone A M, et al, 2003          | 01/09/2003                                                                 | -                                                                                              |                                                    |
|                                                                                                                                                       |                                         | Wang L, et al, 2012                                                        | 01/04/2012                                                                                     | 1 - 19                                             |
| USPTO                                                                                                                                                 | US2017/0021037                          | 18/01/2017                                                                 | -                                                                                              | AP                                                 |
|                                                                                                                                                       | Aguilar –Cordoal, 2003                  | 2003                                                                       | -                                                                                              | A                                                  |
| LENS                                                                                                                                                  | SEQ ID 17,833 US                        | 02/10/2013                                                                 | SEQ ID NO: 3 (80,9% identidad 99,1%)                                                           | Y                                                  |

|           |                                     |            |                                                    |   |
|-----------|-------------------------------------|------------|----------------------------------------------------|---|
|           | 2013/0259924 A1                     |            | cobertura)                                         |   |
|           | SEQ ID 17,839 US<br>2013/0259924 A1 |            | SEQ ID NO: 4 (80,9% identidad 99,1%<br>cobertura)  |   |
|           | SEQ ID 2,092 US<br>2013/0259924 A1  |            | SEQ ID NO: 5 (81 % identidad 99,1%<br>cobertura)   |   |
|           | SEQ ID 1,529 US<br>2013/0259924 A1  |            | SEQ ID NO: 8 (99,8% identidad, 99,8%<br>cobertura) |   |
|           |                                     |            | SEQ ID NO: 9 (99,7% identidad, 99,8%<br>cobertura) |   |
| EPOQUENET | US6445521                           | 03/09/2002 | -                                                  | A |
|           | WO0148013                           | 05/07/2001 | -                                                  |   |
|           | US2013150465                        | 13/06/2013 | -                                                  |   |

\*\*\* Categorías especiales de documentos citados:

|                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>“A” documento que define el estado general de la técnica no considerado como particularmente relevante.</p> <p>“E” solicitud de patente o patente anterior pero publicada en la fecha de presentación internacional o en fecha posterior.</p> <p>“P” documento publicado antes de la fecha de presentación internacional pero con posterioridad a la fecha de prioridad reivindicada.</p> | <p>“X” documento particularmente relevante; la invención reivindicada no puede considerarse nueva o que implique una actividad inventiva por referencia al documento aisladamente considerado.</p> <p>“Y” documento particularmente relevante; la invención reivindicada no puede considerarse que implique una actividad inventiva cuando el documento se asocia a otro u otros documentos de la misma naturaleza, cuya combinación resulta evidente para un experto en la materia.</p> |
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\*\*\*\* Indicar entre paréntesis la Autoridad que realizó la búsqueda o el informe preliminar Ejs: EPO, JP, INAPI.

|                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Literatura no patente</b></p> <p>**Se incluye entre otros, toda la referencia de la literatura no patente.</p> | <p>Differences in the Human and Mouse Amino-Terminal Leader Peptides of Ornithine Transcarbamylase Affect Mitochondrial Import and Efficacy of Adenoviral Vectors Authors:Xuehai Ye, Zimmer Klaus-Peter, Brown Rebecca, Pabin Carol, Batshaw Mark L, Wilson James M, Robinson Michael B Publication data:HUMAN GENE THERAPY, 20010610 &amp; CONFERENCE ON CHANGING THE FACE OF MODERN MEDICINE - STEM CELLS AND GENE THERAPY; FLORENCE, ITALY; OCTOBER 18 -21, 2016 Source info:Vol: 12, Nr: 9, Page(s): 1035 - 1046</p> |
|                                                                                                                      | <p>Acute treatment of hyperammonemia by continuous renal replacement therapy in a newborn patient with ornithine transcarbamylase deficiency Authors:Hyo Jeong Kim, Park Se Jin, In Kook, Park, Lee Jin Sung, Sun Ho, Eun, Kim Ji Hong, Shin Jae Il Publication data:Korean Journal of Pediatrics, 20110101 Source info:Vol: 54, Nr: 10, Page(s): 425</p>                                                                                                                                                                |
|                                                                                                                      | <p>High guanine and cytosine content increases mRNA levels in mammalian cells Authors:Grzegorz Kudla, Leszek Lipinski, Fanny Caffin, Aleksandra Helwak, Maciej Zylicz Publication data:PLOS Biology, 20060601 Public Library of Science, United States Source info:Vol: 4, Nr: 6, Page(s): 933 - 942</p>                                                                                                                                                                                                                 |
|                                                                                                                      | <p>Preclinical evaluation of a clinical candidate AAV8 vector for ornithine transcarbamylase (OTC) deficiency reveals functional enzyme from each persisting vector genome Authors: Lili Wang, Hiroki Morizono, Jianping Lin, Peter Bell, David Jones, Deirdre McMenamin, Hongwei Yu, Mark L Batshaw, James M Wilson Publication data:Molecular Genetics and Metabolism, 20111031 Academic Press, AMSTERDAM, NL Source info:Vol: 105, Nr: 2, Page(s): 203 - 211</p>                                                      |
|                                                                                                                      | <p>Hepatocellular carcinoma in a research subject with ornithine transcarbamylase deficiency Authors:James M Wilson, Oleg A Shchelochkov, Renata C Gallagher, Mark L Batshaw Publication data:Molecular Genetics and Metabolism, 20111025 Academic Press, AMSTERDAM, NL Source info:Vol: 105, Nr: 2, Page(s): 263 - 265</p>                                                                                                                                                                                              |

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|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 137: Neonatal Gene Therapy for OTC Deficiency Authors:Lili Wang Morizono Hiroki, Lin Jianping, Bell Peter, Mcmenamin Deirdre, Yu Hongwei, Batshaw Mark L, Wilson James M Publication data:Molecular therapy : the journal of the American Society of Gene Therapy; 15th Annual Meeting of the American-Society-of-Gene-and-Cell-Therapy (ASGCT), 20120501; 20120516 - 20120519 Academic Press ; Nature Publishing Group, US; Philadelphia, PA, USA Source info:Page(s): S56                                                                 |
|  | Systematic Evaluation of AAV Vectors for Liver directed Gene Transfer in Murine Models Authors:Lili Wang, Wang Huan, Bell Peter, Mccarter Robert J, He Jianping, Calcedo Roberto, Vandenberghe Luk H, Morizono Hiroki, Batshaw Mark L, Wilson James M Publication data:Molecular Therapy, 20100101 No longer published by Elsevier Source info:Vol: 18, Nr: 1, Page(s): 118 - 125                                                                                                                                                           |
|  | Sustained correction of OTC deficiency in spf ash mice using optimized self-complementary AAV2/8 vectors Authors:Wang L, Wang H, Morizono H, Bell P, Jones D, Lin J, Mcmenamin D, Yu H, Batshaw M L, Wilson J M Publication data:Gene Therapy, 20120401 Macmillan Press Ltd Source info:Vol: 19, Nr: 4, Page(s): 404 - 41                                                                                                                                                                                                                   |
|  | AAV2/8-mediated Correction of OTC Deficiency Is Robust in Adult but Not Neonatal Spfash Mice Authors:Sharon C Cunningham, Afroditi Spinoulas, Kevin H Carpenter, Bridget Wilcken, Philip W Kuchel, Ian E Alexander Publication data:Molecular Therapy, 20090801 No longer published by Elsevier Source info:Vol: 17, Nr: 8, Page(s): 1340 - 1346                                                                                                                                                                                            |
|  | Long-Term Correction of Ammonia Metabolism and Prolonged Survival in Ornithine Transcarbamylase-Deficient Mice Following Liver-Directed Treatment with Adeno-associated Viral Vectors Authors:Moscioni, Morizono D, McCarter H, Stern R J, Cabrera-Luque A, Hoang J, Sanmiguel A, Wu J, Bell D, Gao P, Raper G P, Wilson S E, Batshaw J M, M L Publication data:Molecular therapy : the journal of the American Society of Gene Therapy, 20060701 Academic Press ; Nature Publishing Group, US Source info:Vol: 14, Nr: 1, Page(s): 25 - 33 |
|  | Recombinant Adeno-Associated Virus Integration Sites in Murine Liver After Ornithine Transcarbamylase Gene Correction Authors:Li Zhong, Nirav Malani, Mengxin Li, Troy Brady, Jun Xie, Peter Bell, Shaoyong Li, Haven Jones, James M Wilson, Terence R Flotte, Frederic D Bushman, Guangping Gao Publication data:Human Gene Therapy, 20130501 Mary Ann Liebert Source info:Vol: 24, Nr: 5, Page(s): 520 - 525                                                                                                                              |
|  | Paternal transmission and slow elimination of mutant alleles associated with late-onset ornithine transcarbamylase deficiency in male patients Authors:Sanae Numata, Eimei Harada, Yasuki Maeno, Isao Ueki, Yoriko Watanabe, Chieko Fujii, Takashi Yanagawa, Satoshi Takenaka, Toshiro Inoue, Shinkai Inoue, Terufumi Goushi, Tsutomu Yasutake, Toshihiko Mizuta, Makoto Yoshino Publication data:Journal of Human Genetics, 20071120 Springer-Verlag, To Source info:Vol: 53, Nr: 1, Page(s): 10 - 17                                      |
|  | Mutations and polymorphisms in the human ornithine transcarbamylase ( OTC ) gene Authors:Saori Yamaguchi, Lisa L Brailey, Hiroki Morizono, Allen E Bale, Mendel Tuchman Publication data:Human Mutation, 20060701 Wiley-Liss Source info:Vol: 27, Nr: 7, Page(s): 626 - 632                                                                                                                                                                                                                                                                 |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 161-P: Novel OTC gene deletion and somatic mosaicism in a boy with late onset OTC deficiency and early liver cirrhosis Authors: Spada Morrone A M, Bisanzi S, Peduto A, Merlino S, Roasio L, Gennari F, Zammarchi E Publication data: JOURNAL OF INHERITED METABOLIC DISEASE; IX International Congress on Inborn Errors of Metabolism, 20030901; 20030902 - 20030906 KLUWER, DORDRECHT, NL; Brisbane, Australia Source info: Page(s): 8 |
|  | HUGO A. BARRERA SALDAÑA*, ESTUARDO AGUILAR CÓRDOVA «Efecto de pre-inmunización con vectores adenovirales sobre la efectividad terapéutica y la toxicidad de la terapia génica antitumoral», 2003 <a href="http://www.redalyc.org/pdf/402/40260409.pdf">http://www.redalyc.org/pdf/402/40260409.pdf</a>                                                                                                                                   |

|                                |            |
|--------------------------------|------------|
| Fecha del reporte de búsqueda: | 30/08/2018 |
|--------------------------------|------------|

| EPODOC | SS Status | Results    | Query                                 |
|--------|-----------|------------|---------------------------------------|
| 1      |           | 36         | ORNIT[I,HI]N+ 2D TRANSCARBAM[I,Y]LAS+ |
| 2      |           | 467        | OTC OR HOTC                           |
| 3      |           | 478        | 1 OR 2                                |
| 4      |           | 1.805      | ADENOVIRAL+ 2D VECTOR+                |
| 5      |           | 3.157      | AAV+ OR RAAV                          |
| 6      |           | 4.956      | 4 OR 5                                |
| 7      |           | 0          | ADENOASOCIA+ 2D VECTOR+               |
| 8      |           | 0          | 3 AND 6                               |
| 9      |           | 234.722    | RECOMBINANT+ OR OPTIMIZED+            |
| 10     |           | 10         | 3 AND 9                               |
| 11     |           | 90.344.472 | PD<20140309                           |
| 12     |           | 2          | 10 AND 11                             |
| 13     |           | 21         | 1 AND 11                              |
| 14     |           | 8.573      | OC OR HOCT                            |
| 15     |           | 8.609      | 1 OR 14                               |

SEQ ID NO: 3

| Sequences producing significant alignments:                                         |                                                                                                                     |                                                                                                              |                         |                          |                                          |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------|------------------------------------------|---------------------------------------------------------------------------------------|
| Select: <a href="#">All</a> <a href="#">None</a> Selected: 0                        |                                                                                                                     |                                                                                                              |                         |                          |                                          |                                                                                       |
|  | <a href="#">Alignments</a>                                                                                          |  <a href="#">Download</a> | <a href="#">GenBank</a> | <a href="#">Graphics</a> | <a href="#">Distance tree of results</a> |  |
|                                                                                     | Description                                                                                                         | Max score                                                                                                    | Total score             | Query cover              | E value                                  | Ident                                                                                 |
| <input type="checkbox"/>                                                            | <a href="#">PREDICTED: Seriola lalandi dorsalis ornithine carbamoyltransferase (otc), mRNA</a>                      | 276                                                                                                          | 276                     | 82%                      | 1e-69                                    | 73%                                                                                   |
| <input type="checkbox"/>                                                            | <a href="#">PREDICTED: Seriola dumerili ornithine carbamoyltransferase (otc), mRNA</a>                              | 254                                                                                                          | 254                     | 82%                      | 6e-63                                    | 72%                                                                                   |
| <input type="checkbox"/>                                                            | <a href="#">PREDICTED: Nothobranchius furzeri ornithine carbamoyltransferase (otc), transcript variant X2, mRNA</a> | 193                                                                                                          | 193                     | 74%                      | 1e-44                                    | 72%                                                                                   |
| <input type="checkbox"/>                                                            | <a href="#">PREDICTED: Nothobranchius furzeri ornithine carbamoyltransferase (otc), transcript variant X1, mRNA</a> | 193                                                                                                          | 193                     | 74%                      | 1e-44                                    | 72%                                                                                   |

SEQ ID NO: 4

### Sequences producing significant alignments:

Select: [All](#) [None](#) Selected:0

| <div> <div>Alignments</div> <div>Download</div> <div>GenBank</div> <div>Graphics</div> <div>Distance tree of results</div> </div> |                                                                                                                     |           |             |             |         |       |                                |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------|-------------|-------------|---------|-------|--------------------------------|
|                                                                                                                                   | Description                                                                                                         | Max score | Total score | Query cover | E value | Ident | Accession                      |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Panthera pardus ornithine carbamoyltransferase (OTC), mRNA</a>                               | 606       | 606         | 99%         | 4e-169  | 77%   | <a href="#">XM_019417284.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Panthera tigris altaica ornithine carbamoyltransferase (OTC), mRNA</a>                       | 601       | 601         | 99%         | 2e-167  | 77%   | <a href="#">XM_007085475.2</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Rhinolophus sinicus ornithine carbamoyltransferase (OTC), mRNA</a>                           | 592       | 592         | 99%         | 1e-164  | 77%   | <a href="#">XM_019747855.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus asinus ornithine carbamoyltransferase (OTC), transcript variant X1, mRNA</a>           | 568       | 568         | 99%         | 2e-157  | 76%   | <a href="#">XM_014853049.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X1, mRNA</a>         | 551       | 551         | 99%         | 2e-152  | 76%   | <a href="#">XM_001488750.6</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus przewalskii ornithine carbamoyltransferase (OTC), transcript variant X1, mRNA</a>      | 551       | 551         | 99%         | 2e-152  | 76%   | <a href="#">XM_008537854.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus asinus ornithine carbamoyltransferase (OTC), transcript variant X2, mRNA</a>           | 545       | 545         | 92%         | 8e-151  | 77%   | <a href="#">XM_014853050.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X4, mRNA</a>         | 529       | 529         | 92%         | 9e-146  | 76%   | <a href="#">XM_023633821.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X3, mRNA</a>         | 529       | 529         | 92%         | 9e-146  | 76%   | <a href="#">XM_023633820.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus przewalskii ornithine carbamoyltransferase (OTC), transcript variant X2, mRNA</a>      | 529       | 529         | 92%         | 9e-146  | 76%   | <a href="#">XM_008537855.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Miniopterus natalensis ornithine carbamoyltransferase (OTC), mRNA</a>                        | 492       | 492         | 99%         | 1e-134  | 75%   | <a href="#">XM_016197049.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X2, mRNA</a>         | 442       | 442         | 77%         | 1e-119  | 76%   | <a href="#">XM_023633819.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Nothobranchius furzeri ornithine carbamoyltransferase (otc), transcript variant X2, mRNA</a> | 159       | 159         | 74%         | 1e-34   | 71%   | <a href="#">XM_015966212.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Nothobranchius furzeri ornithine carbamoyltransferase (otc), transcript variant X1, mRNA</a> | 159       | 159         | 74%         | 1e-34   | 71%   | <a href="#">XM_015966210.1</a> |

SEQ ID NO: 5

### Sequences producing significant alignments:

Select: [All](#) [None](#) Selected:0

| <div> <div>Alignments</div> <div>Download</div> <div>GenBank</div> <div>Graphics</div> <div>Distance tree of results</div> </div> |                                                                                                                        |           |             |             |         |       |                                |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------|-------------|-------------|---------|-------|--------------------------------|
|                                                                                                                                   | Description                                                                                                            | Max score | Total score | Query cover | E value | Ident | Accession                      |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Salvelinus alpinus ornithine carbamoyltransferase (otc), mRNA</a>                               | 340       | 340         | 74%         | 4e-89   | 75%   | <a href="#">XM_024009765.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Salmo salar ornithine carbamoyltransferase (otc), mRNA</a>                                      | 340       | 340         | 74%         | 4e-89   | 75%   | <a href="#">XM_014174203.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">Salmo salar clone ssal-evd-526-082 Ornithine carbamoyltransferase, mitochondrial precursor putative mF</a> | 340       | 340         | 74%         | 4e-89   | 75%   | <a href="#">BT050289.2</a>     |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Oncorhynchus tshawytscha ornithine carbamoyltransferase (otc), mRNA</a>                         | 329       | 329         | 74%         | 9e-86   | 74%   | <a href="#">XM_024409728.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Oncorhynchus kisutch ornithine carbamoyltransferase (otc), mRNA</a>                             | 324       | 324         | 74%         | 4e-84   | 74%   | <a href="#">XM_020460424.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Clupea harengus ornithine carbamoyltransferase, mitochondrial-like (LOC105911450), mR</a>       | 291       | 291         | 71%         | 4e-74   | 74%   | <a href="#">XM_012840246.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Clupea harengus ornithine carbamoyltransferase, mitochondrial-like (LOC105911459), mR</a>       | 202       | 202         | 28%         | 2e-47   | 79%   | <a href="#">XM_012840255.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">PREDICTED: Astyanax mexicanus ornithine carbamoyltransferase (otc), mRNA</a>                               | 193       | 193         | 83%         | 1e-44   | 71%   | <a href="#">XM_022665668.1</a> |
| <input type="checkbox"/>                                                                                                          | <a href="#">Chromatiaceae bacterium 2141T.STBD.0c.01a, complete genome</a>                                             | 62.1      | 62.1        | 3%          | 4e-05   | 95%   | <a href="#">CP019936.1</a>     |

SEQ ID NO: 8

### Sequences producing significant alignments:

Select: [All](#) [None](#) Selected:0

| <a href="#">Alignments</a> <a href="#">Download</a> <a href="#">GenBank</a> <a href="#">Graphics</a> <a href="#">Distance tree of results</a> |                                                                                                                     |           |             |             |         |       |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------|-------------|-------------|---------|-------|--------------------------------|
|                                                                                                                                               | Description                                                                                                         | Max score | Total score | Query cover | E value | Ident | Accession                      |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Panthera pardus ornithine carbamoyltransferase (OTC), mRNA</a>                               | 612       | 612         | 99%         | 8e-171  | 77%   | <a href="#">XM_019417284.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Panthera tigris altaica ornithine carbamoyltransferase (OTC), mRNA</a>                       | 606       | 606         | 99%         | 4e-169  | 77%   | <a href="#">XM_007085475.2</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Rhinolophus sinicus ornithine carbamoyltransferase (OTC), mRNA</a>                           | 597       | 597         | 99%         | 2e-166  | 77%   | <a href="#">XM_019747855.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus asinus ornithine carbamoyltransferase (OTC), transcript variant X1, mRNA</a>           | 573       | 573         | 99%         | 4e-159  | 76%   | <a href="#">XM_014853049.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X1, mRNA</a>         | 556       | 556         | 99%         | 4e-154  | 76%   | <a href="#">XM_001488750.6</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus przewalskii ornithine carbamoyltransferase (OTC), transcript variant X1, mRNA</a>      | 556       | 556         | 99%         | 4e-154  | 76%   | <a href="#">XM_008537854.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus asinus ornithine carbamoyltransferase (OTC), transcript variant X2, mRNA</a>           | 551       | 551         | 92%         | 2e-152  | 77%   | <a href="#">XM_014853050.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X4, mRNA</a>         | 534       | 534         | 92%         | 2e-147  | 76%   | <a href="#">XM_023633821.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X3, mRNA</a>         | 534       | 534         | 92%         | 2e-147  | 77%   | <a href="#">XM_023633820.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus przewalskii ornithine carbamoyltransferase (OTC), transcript variant X2, mRNA</a>      | 534       | 534         | 92%         | 2e-147  | 77%   | <a href="#">XM_008537855.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Miniopterus natalensis ornithine carbamoyltransferase (OTC), mRNA</a>                        | 497       | 497         | 99%         | 2e-136  | 75%   | <a href="#">XM_016197049.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Equus caballus ornithine carbamoyltransferase (OTC), transcript variant X2, mRNA</a>         | 448       | 448         | 77%         | 2e-121  | 77%   | <a href="#">XM_023633819.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Nothobranchius furzeri ornithine carbamoyltransferase (otc), transcript variant X2, mRNA</a> | 165       | 165         | 74%         | 3e-36   | 71%   | <a href="#">XM_015966212.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Nothobranchius furzeri ornithine carbamoyltransferase (otc), transcript variant X1, mRNA</a> | 165       | 165         | 74%         | 3e-36   | 71%   | <a href="#">XM_015966210.1</a> |

SEQ ID NO: 9

### Sequences producing significant alignments:

Select: [All](#) [None](#) Selected:0

| <a href="#">Alignments</a> <a href="#">Download</a> <a href="#">GenBank</a> <a href="#">Graphics</a> <a href="#">Distance tree of results</a> |                                                                                                                        |           |             |             |         |       |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------|-------------|-------------|---------|-------|--------------------------------|
|                                                                                                                                               | Description                                                                                                            | Max score | Total score | Query cover | E value | Ident | Accession                      |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Salvelinus alpinus ornithine carbamoyltransferase (otc), mRNA</a>                               | 316       | 316         | 69%         | 7e-82   | 75%   | <a href="#">XM_024009765.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Salmo salar ornithine carbamoyltransferase (otc), mRNA</a>                                      | 316       | 316         | 69%         | 7e-82   | 75%   | <a href="#">XM_014174203.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">Salmo salar clone ssal-evd-526-082 Ornithine carbamoyltransferase, mitochondrial precursor putative mf</a> | 316       | 316         | 69%         | 7e-82   | 75%   | <a href="#">BT050289.2</a>     |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Clupea harengus ornithine carbamoyltransferase, mitochondrial-like (LOC105911450), mR</a>       | 307       | 307         | 71%         | 4e-79   | 74%   | <a href="#">XM_012840246.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Oncorhynchus tshawytscha ornithine carbamoyltransferase (otc), mRNA</a>                         | 305       | 305         | 69%         | 2e-78   | 74%   | <a href="#">XM_024409728.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Oncorhynchus kisutch ornithine carbamoyltransferase (otc), mRNA</a>                             | 300       | 300         | 69%         | 7e-77   | 74%   | <a href="#">XM_020460424.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Clupea harengus ornithine carbamoyltransferase, mitochondrial-like (LOC105911459), mR</a>       | 235       | 235         | 28%         | 2e-57   | 81%   | <a href="#">XM_012840255.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">PREDICTED: Astyanax mexicanus ornithine carbamoyltransferase (otc), mRNA</a>                               | 189       | 189         | 74%         | 2e-43   | 71%   | <a href="#">XM_022665668.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">Anthracocystis flocculosa PF-1 hypothetical protein partial mRNA</a>                                       | 132       | 132         | 25%         | 3e-26   | 76%   | <a href="#">XM_007880080.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">Trichosporon asahii var. asahii CBS 2479 ornithine carbamoyltransferase partial mRNA</a>                   | 128       | 128         | 20%         | 4e-25   | 78%   | <a href="#">XM_014327326.1</a> |
| <input type="checkbox"/>                                                                                                                      | <a href="#">Chromatiaceae bacterium 2141T.STBD.0c.01a, complete genome</a>                                             | 62.1      | 62.1        | 3%          | 4e-05   | 95%   | <a href="#">CP019936.1</a>     |