

Title (en)  
BRAIN REPAIR AFTER TRAUMATIC BRAIN INJURY THROUGH NEUROD1-MEDIATED ASTROCYTE-TO-NEURON CONVERSION

Title (de)  
HIRNREPARATUR NACH TRAUMATISCHER HIRNVERLETZUNG DURCH NEUROD1-VERMITTELTE UMWANDLUNG VON ASTROZYTEN IN NEURONEN

Title (fr)  
RÉGÉNÉRATION DU CERVEAU APRÈS UNE LÉSION CÉRÉBRALE TRAUMATIQUE PAR CONVERSION D'ASTROCYTE EN NEURONE À MÉDIATION PAR NEUROD1

Publication  
**EP 4065227 A4 20231220 (EN)**

Application  
**EP 20894844 A 20201125**

Priority  

- US 201962939978 P 20191125
- US 2020062299 W 20201125

Abstract (en)  
 [origin: WO2021108609A1] Methods of treating traumatic brain injury (TBI) are provided according to aspects of the present disclosure including: converting reactive astrocytes to functional neurons by providing exogenous neurogenic differentiation 1 (NeuroDI, also called ND1 herein) to at least one reactive astrocyte in a damaged region of a subject's brain, such as the brain of a human subject with a TBI. According to aspects, presence of non-functional neurons and reactive astrocytes in the damaged region of the subject's brain are not primarily due to bleeding and/or ischemia in the damaged region. According to aspects of the present disclosure, the traumatic brain injury causes a period of astrogliosis in the damaged region of the subject's brain, and the exogenous NeuroDI is provided to reactive astrocytes in the damaged region of the subject's brain during the period of astrogliosis or within four weeks after the period of astrogliosis.

IPC 8 full level  
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CPC (source: EP)  
**A61K 38/1709** (2013.01); **A61K 48/005** (2013.01); **A61P 25/00** (2017.12); **C07K 14/4702** (2013.01); **A01K 2227/105** (2013.01); **C12N 2750/14143** (2013.01)

C-Set (source: EP)  
 1. **A61K 35/761** + **A61K 2300/00**  
 2. **A61K 38/1709** + **A61K 2300/00**

Citation (search report)  

- [X] WO 2019152857 A1 20190808 - CHEN GONG [US], et al
- [X] CA 2903933 A1 20170311 - NOMADOGEN BIOTECHNOLOGIES INC [CA]
- [X] US 2017073382 A1 20170316 - WONG SCOTT ALLAN [CA], et al
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- [X] WESTON NICOLE M ET AL: "The Potential of Stem Cells in Treatment of Traumatic Brain Injury", CURRENT NEUROLOGY AND NEUROSCIENCE REPORTS, SPRINGER US, NEW YORK, vol. 18, no. 1, 25 January 2018 (2018-01-25), pages 1 - 10, XP036423434, ISSN: 1528-4042, [retrieved on 20180125], DOI: 10.1007/S11910-018-0812-Z
- See references of WO 2021108609A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**WO 2021108609 A1 20210603**; AU 2020391479 A1 20220616; CA 3162891 A1 20210603; CN 115135382 A 20220930; EP 4065227 A1 20221005; EP 4065227 A4 20231220; JP 2023502782 A 20230125

DOCDB simple family (application)  
**US 2020062299 W 20201125**; AU 2020391479 A 20201125; CA 3162891 A 20201125; CN 202080081784 A 20201125; EP 20894844 A 20201125; JP 2022530253 A 20201125