Co-operation profile details from Enterprise Europe SEIMED

TOIT20180212002 - Chemokine for the therapeutic treatment of medulloblastoma Technology collaboration OFFER

Abstract

An Italian research team has developed a novel therapeutic agent for treating medulloblastoma, one of the most widespread paediatric brain tumours.
The new therapeutic agent is the Cxcl3 chemokine (C-X-C motif, ligand 3).
The researchers are looking for partners interested in financial agreements and/or technical cooperation agreements.

Description

An Italian research group has developed a novel therapeutic agent for treating medulloblastoma.
Medulloblastoma is one of the most widespread paediatric brain tumours, principally caused by the prolonged mitotic activity of glioma-propagating cells (GCPs) inside the external granular layer (EGL) of the cerebellum, making them potential targets of transforming insults, resulting in gene mutation and tumorigenesis.
The Italian researchers have recently shown that it is sufficient to delay the migration of the GCPs from the EGL, forcing them to proliferate for a longer period, to enhance the frequency of the transformation of the GCPs into a neoplastic cell.
The researches demonstrated this in a new mouse model, generated by crossing mice of a spontaneous medulloblastoma line (Patched1 heterozygous, which have hyperactivation of the Shh pathway) with the mouse lacking the medulloblastoma tumor-suppressor gene (Tis21); the resulting mice (Tis21-/-/Patched1+/-) show a dramatic increase of medulloblastoma frequency, with respect to the Patched1 heterozygous mice model. Remarkably, in Tis21-/-/Patched1+/- mice they observed not only increase of the frequency of medulloblastoma, but also an increase of the tumor lesions at the surface of cerebellum. This phenotype is surprisingly not associated to increase of proliferation of GCPs, but rather to a strong decrease of the migration of GCPs from the surface of cerebellum toward the internal layers of cerebellum.
In particular, they identified, by a genome-wide analysis, the chemokine Cxcl3 as a new responsible for the migration of GCPs. In neoplastic GCPs, Cxcl3 is reduced causing a huge increase of the frequency of medulloblastomas in consequence of the reduced migration of GCPs from the surface of cerebellum. Importantly, they have also shown that the treatment of cerebellar slices with Cxcl3 reduces the extension of diffused medulloblastoma lesions.
Therefore, ClCx3 is suggested as a novel therapeutic agent for treating medulloblastoma.

The Italian group is looking for new partners for Financial support to improve R&D and cover the patent costs (i.e. business angels).
Furthermore the researchers are also interested in Technical cooperation agreement for sharing resources and skills; i.e. the researchers would like to cooperate with universities, pharmaceutical and biotech companies to proceed with the clinical studies on human and development of pharmaceutical formulations.

Target partner expertise sought:

- Specific area of activity of the partner: The partner sought is an investor, i.e. a business angel, interested in covering the patent costs and in supporting financially the research programme for favoring technological transfer (Financial agreement).
The researchers is also looking for other research institutes/universities and/or pharmaceutical and biotech companies to reach technical cooperation agreements for sharing resources and skills, proceed with the clinical studies on humans, and develop pharmaceutical solutions.

Key information:

Country of origin: ITALY

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