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**MEDIA RELEASE**

**A lifeline for premature born babies: Funding announced for new stem cell research**

A new therapy being developed by a group of researchers from across the globe aims to see if stem cells can be used to regenerate the brain damage caused by premature birth. This brain damage is called 'encephalopathy of prematurity' (EOP).

To 'rebuild' the damaged areas of the brain, scientists will use human mesenchymal stem cells (H-MSC) – those taken from umbilical cord tissue and very different to human embryonic stem cells (hESC).

The European research project, which is called PREMSTEM, has received €9M in funding from the European Union's prestigious Horizon 2020 Research and Innovation programme.

Professor Pierre Gressens, PREMSTEM Project Coordinator, said the five-year project will see a therapy ready for clinical trials to see if it will treat brain injury in premature born infants.

"We'll be examining the best regiment, timing, dose and administration route for H-MSC as therapy for this specific type of brain injury," Gressens said.

"We'll also develop new, inexpensive and easy-to-use imaging tools that will give clinicians, for the first time, the ability to readily identify premature born babies needing our treatment – those that have encephalopathy of prematurity."

Once the research is complete, Gressens said the therapy will have an even broader application.

"We anticipate that we'll be able to extend to other types of perinatal brain injury and disorders such as paediatric multiple sclerosis," he said.

More than 15 million babies are born preterm every year – before 37 weeks of a typical 40 week pregnancy – and are at risk of long-term disability due to brain damage.

The last weeks of pregnancy are a time of astounding growth and change for an unborn baby's brain – often referred to as the 'big bang' during neonatal development.

Disturbances in the brain's growth, such as through premature birth, can result in cerebral palsy, severely impaired cognitive functions and disorders such as attention deficit and hyperactivity disorder (ADHD) and autism spectrum disorder (ASD).

PREMSTEM, which officially started in January 2020, has fifteen partners from eight countries and involves world-leading clinicians, researchers and healthcare organisations specialised in neonatology in both Europe and Australia.

The academic and industry partners are the Institut National De La Santé et de La Recherche Médicale (Inserm) (France), Inserm Transfert (France), Royal Melbourne Institute of Technology (RMIT) University (Australia), RMIT Europe (Spain), Universitair Medisch Centrum Utrecht (Netherlands), Universiteit Maastricht (Netherlands), Stichting Katholieke Universiteit (Netherlands), Universitaetsklinikum Essen (Germany), Goteborg Universitet (Sweden), Consiglio Nazionale Delle Ricerche (Italy), Universite De Geneve (Switzerland), Iconeus (France) and CHIESI Farmaceutici SPA (Italy).

Two major advocacy groups supporting premature born infants and their families are also central to the project – The European Foundation for the Care of Newborn Infants (EFCNI) (Germany) as well as the Cerebral Palsy Alliance (Australia).

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