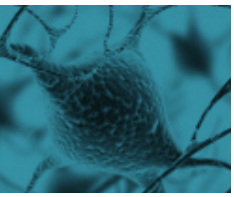

PROJECTS RECOMMENDED FOR FUNDING

RENEW IT \\ Restoring function in stroke via GPR17, a new receptor involved in adult brain self-repair

Austria\ Belgium\ Canada\ Finland\ France\ Germany\ Israel\ Italy\ Luxembourg\ Poland\ Portugal\ Romania\ Spain

Loss of oligodendrocytes, the myelin-forming cells ensheathing axons and ensuring nerve transmission, is not only typical of demyelinating diseases but also markedly contributes to stroke deficits. Remyelination thus represents a new attractive approach to foster functional recovery over a wider therapeutic window in stroke patients.

In mice models of brain ischemia, RENEW IT will exploit the complementary expertise of participating Partners to expand the population of oligodendrocyte precursor cells in the rodent brain and then instruct generated cells to differentiate to myelinating cells by using new pharmacological agents acting on a recently discovered oligodendroglial actor, the GPR17 receptor.

The efficiency of this approach will be monitored in living ischemic animals by non-invasive imaging techniques allowing the detection of myelin restoration after stroke; in parallel, behavioural measures will be performed in alert animals to determine whether and to what extent higher integrated brain functions, such as learning and memory, are positively influenced by these treatments.

RENEW IT will provide new information on the extent and modalities of brain self-repair through white matter reconstruction and help developing new strategies to stimulate remodelling of neuronal circuitries after stroke.

COORDINATOR | ELENA TREMOLI & MARIA P. ABBRACCHIO

PROJECT **PARTNERS:**

Elena Tremoli & **Maria P. Abbracchio** (coordinators)
Centro Cardiologico Monzino , Istituto di Ricovero e Cura a Carattere Scientifico, IRCCS, Milan, Italy

Leda Dimou
Ludwig-Maximilians University of Munich, Munich, Germany

José Maria Delgado-García
Pablo de Olavide University, Sevilla, Spain

Federico Calegari
Dresden University of Technology, Dresden, Germany