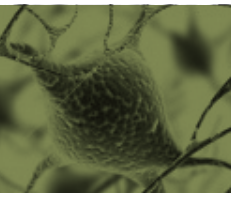

PROJECTS RECOMMENDED FOR FUNDING

TargetECM \\ SUPERRESOLUTION IMAGING AND THERAPEUTIC TARGETING OF EXTRACELLULAR MATRIX-MEDIATED SIGNALLING IN BRAIN DISEASES

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

Many brain diseases are due to a failure in communication between neural cells, which takes place in highly specialized intercellular contacts, synapses. Among these are depression, addiction, mental retardation, autism, anxiety, schizophrenia, migraine, stroke, epilepsy, chronic pain, Alzheimer's and Parkinson disease. The TargetECM project aims to investigate the role of the least studied component of synapses, the extracellular matrix, in epilepsy and Alzheimer's disease. The extracellular matrix is a complex structure composed of molecules secreted from neurons and glial cells, which accumulate at the extracellular space and control various aspects of synaptic communication. In the frame of TargetECM project, four research groups from Germany, France and Israel will break new ground by investigating the (patho-)physiological functions of several prominent extracellular matrix molecules, such as LGI1 (leucine-rich, glioma-inactivated 1), heparan sulfate proteoglycans and integrins. By developing new imaging probes and combining their expertise in extracellular matrix functions, protein engineering and advanced imaging, these groups will improve our understanding of the basic mechanisms of communication between neural cells that are at fault during patho-physiological alterations, thereby identifying new therapeutic targets for treatment of neurological and neuropsychiatric disorders.

COORDINATOR | ALEXANDER DITYATEV

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