

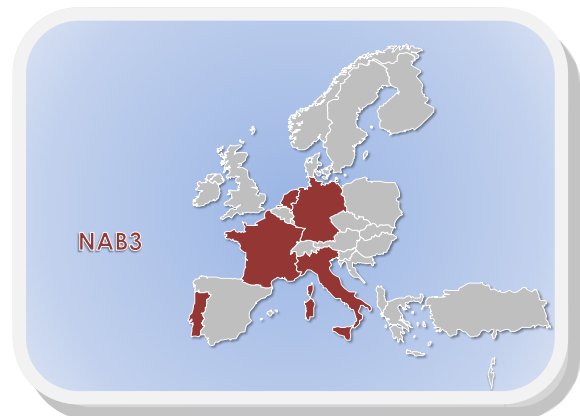
## NAB3

### Development of a Novel Multicellular *In Vitro* Model of Alzheimer's disease-like Blood-Brain Barrier

A striking challenge in diagnosis and therapy of neurodegenerative diseases is the design of drugs capable of crossing the blood-brain barrier (BBB), a tightly regulated barrier that prevents the passage of drugs from the blood to the brain. *In vitro* cellular BBB models are available, but they mimic only healthy conditions without taking into account the BBB alterations associated with neurodegenerative diseases, like Alzheimer's disease (AD).

This project aims to develop and characterize a complex *in vitro* model of the BBB in AD conditions, built up with different cellular types combined with organotypic brain slices or neuronal cultures. This newly designed *in vitro* model will be realized thanks to the expertise and the multi-disciplinarity of the consortium in genetic engineering, physiology, neurobiology, neuroanatomy and biochemistry. The expected results will provide an innovative tool to i) obtain new information on the pathogenesis and pathophysiology of AD; ii) conduct more advanced early drug development and pre-clinical studies; and iii) devise new diagnostic or therapeutic strategies.






**Start Date:** January 2016  
**Duration:** 3 years  
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