



## Principal Investigator Grant

### Project

«ApoE particle composition defines its functions»

**Granted amount** CHF 300'000

**Starting date** 1.3.2023

**Duration** 36 months

### Main applicant

PhD Jerome Robert  
University of Zurich  
Institute of Clinical Chemistry  
Rämistrasse 71  
8001 Zürich



### Lay summary of the project

The role of apolipoprotein E (apoE) in Alzheimer's disease was first described in the nineties, nonetheless to date it remains unclear whether apoE level should be increased or decreased. Interestingly recent evidences showed that the functions of the apoE particles, which are composed of hundreds of different lipids and proteins is cell type dependent. It is therefore crucial to systematically investigate how the composition of apoE particles varies by cell types and how it affects its functions.

In the present proposal we will measure the protein and lipid composition of three cell types producing apoE within the brain, namely astrocytes, microglia and pericytes. Finally, we will measure their different neurodegenerative relevant functions and correlate the composition to the functions. Our work might ultimately help to generate novel therapeutics against Alzheimer's disease as well as to define novel biomarkers.