

A bírálóbizottság értékelése

The committee accepts the following as new results:

1. The candidate developed a novel fluorescent assay for the measurement of adenine nucleotide translocase (ANT) mediated ADTP-ATP exchange. This assay can be utilized for isolated mitochondria, permeabilized cells, and tissue homogenates.
2. He developed a biosensor test suitable for detecting the direction of action of ANT and for determining the direction of the reaction catalyzed by succinate-CoA ligase (SUCL).
3. Using the developed methods, he discovered that the direction of the activities of mitochondrial Fo-F₁ ATP-ase and the ANT is not necessarily synchronized and the ATP produced by SUCLA can support both the reverse function of ATPase and the ATP exporting activity of ANT.
4. He discovered that mSLP can produce ATP in the mitochondrial matrix even in the absence of oxidative phosphorylation and he hypothesized that this mechanism may contribute to the survival of cancerous cells in oxygen-poor environment.
5. He described the dependence of mSLP on alpha-ketobutyrate and GABA metabolisms.
6. He mapped the expression of SUCLA and different alpha-ketoglutarate-dehydrogenase complex (KGDHC) isoforms in the adult human brain.