

Publication

β-Amyloid protein amplifies calcium signalling in central neurons from the adult mouse

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 107263

Author(s) Hartmann, H; Eckert, A; Müller, W E

Author(s) at UniBasel [Eckert, Anne](#) ;

Year 1993

Title *β*-Amyloid protein amplifies calcium signalling in central neurons from the adult mouse

Journal Biochemical and Biophysical Research Communications

Volume 194

Number 3

Pages / Article-Number 1216-20

The role of beta-amyloid in Alzheimer's disease and its cellular mechanism of action are still unclear. Based on observations that beta-amyloid influences neuronal calcium homeostasis we investigated the effect of the peptide on K(+)-induced enhancement of free intracellular calcium in dissociated neurons from adult mice. Preincubation with beta-amyloid fragment 25-35 at concentrations ≥ 0.05 $\mu\text{mol/l}$ resulted in marked amplification of the K(+)-induced Ca^{2+} response. This effect was also observed with fragment 1-40, whereas fragment 1-28 or 12-28 did not affect the Ca^{2+} response. This preparation therefore presents a valuable model to investigate the action of beta-amyloid ex vivo in individual animals. Our findings suggest a small but consisting destabilizing effect of beta-amyloid on neuronal Ca^{2+} homeostasis resulting in chronically increased neuronal vulnerability.

Publisher Elsevier

ISSN/ISBN 0006-291X

edoc-URL <http://edoc.unibas.ch/dok/A5253525>

Full Text on edoc No;

Digital Object Identifier DOI 10.1006/bbrc.1993.1952

PubMed ID <http://www.ncbi.nlm.nih.gov/pubmed/8352778>

ISI-Number WOS:A1993LT51700035

Document type (ISI) Journal Article