1-P-047

Poster Sessions

Plasmalemmal voltage-dependent anion channel is one of membrane proteins targeted for 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂

Tatsurou Yagami¹, Yasuhiro Yamamoto¹, Hiromi Koma¹

¹*Dept. Pharmaceutic. Health, Himeji Dokkyo Univ.*

Voltage-dependent anion channel (VDAC) has a crucial role in apoptosis. VDACS are not only expressed in mitochondria but also on plasma membrane. In the present study, we confirmed that VDAC was detected in the neuronal plasma membrane and localized on the neuronal cell surface. By proteomic approach, VDAC was identified as one of membrane targets for 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂ (15d-PGJ₂), which activated caspase and induced neuronal cell death. The bound of VDAC with 15d-PGJ₂ was detected by pull-down assay. VDAC was partially co-localized with membrane targets of 15d-PGJ₂, suggesting the partial involvement of VDAC in the neurotoxicity of 15d-PGJ₂. To target only plasmalemmal VDAC, but not mitochondrial one, the anti-VDAC antibody was applied without permeabilization. The anti-VDAC antibody significantly attenuated the neurotoxicity of 15d-PGJ₂, but not completely. The antibody significantly reduced the 15d-PGJ₂-activated caspase 3. Thus, we suggested that plasmalemmal VDAC might contribute partially to the neurotoxicity of 15d-PGJ₂ as one of membrane targets.