

## A phytochemical for prevention or treatment of neurodegenerative diseases such as Alzheimer's disease and ALS

## Innovation & Advantages:

- **In cultured N2a neuronal cells** – It protects neurons against Amyloid  $\beta$  ( $A\beta$ )-induced cell death and it inhibits  $A\beta$ - and glutamate- induced ROS production. This compound also prevents the  $A\beta$ - induced phosphorylation of ERK1/2, MEK1 and SAPK/JNK.
  - **In primary cultures of microglial cells** - It inhibits the LPS - elicited (1) expression of the pro-inflammatory mediators COX-2, iNOS and MMP-9 (2) secretion of NO, glutamate, IL-1 $\beta$ , TNF $\alpha$  and IL-6 from microglial cells.
  - **In primary cultures of astrocytes** - it protects astrocytes from H<sub>2</sub>O<sub>2</sub>-induced: (1) cell death (2) ROS production (3) phosphorylation of ERK1/2 and MEK1, and induces GDNF expression by these cells.
  - **In vitro** – Has radical scavenging ability.
- This compound also crosses the plasma membranes of glial cells and prevents the accumulation of reactive oxygen species (ROS) inside the cells. Due to its low polarity and low molecular weight (MW 320), it is suggested that this compound might also traverse the blood brain barrier.

Figure 1

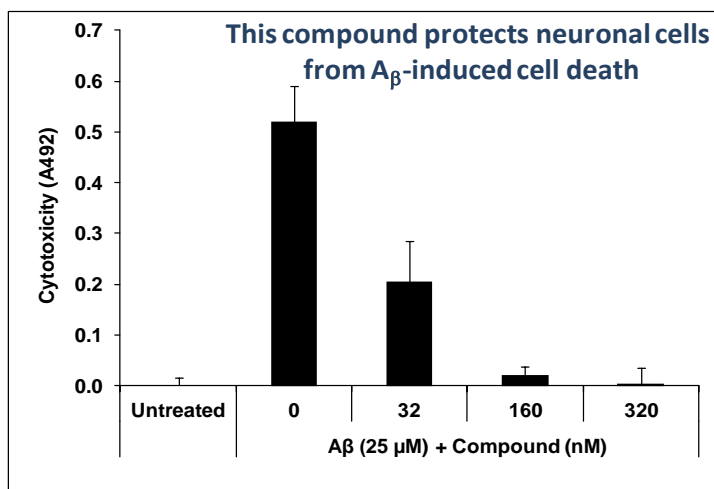
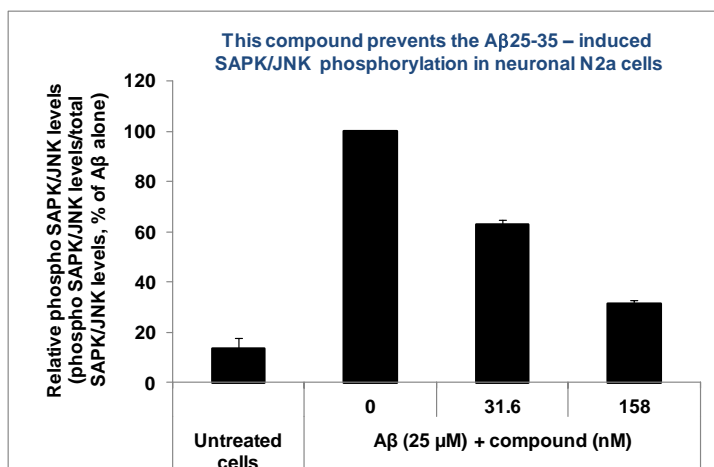


Figure 2



## Development status:

- PreClinical

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