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ProductInformation

Anti-Seladin-1 (C-terminal)
produced in rabbit, IgG fraction of antiserum

Catalog Number **S8696**

Product Description

Anti-Seladin-1 (C-terminal) is produced in rabbit using as immunogen, a synthetic peptide corresponding to amino acids 505-516 located at the C-terminus of human seladin-1, conjugated to KLH. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-Seladin-1 (C-terminal) recognizes human seladin-1 by immunoblotting, ~60 kDa. Staining of the seladin-1 band is specifically inhibited by the immunizing peptide.

Alzheimer's disease (AD) is characterized by a substantial loss of neurons and synapses in selective brain regions, by the generation of intracellular neurofibrillary tangles (NFT), and by extracellular and perivascular deposits of β-amyloid.[1] Severe degeneration of neurons occurs predominantly in selectively vulnerable neuronal populations, especially in brain regions involved in higher cognitive functions including learning and memory. These are impaired early on in the course of AD. Seladin-1 (SELective Alzheimer's Disease INdicator-1, 60 kDa), is an anti-apoptotic gene, found to be down regulated in large pyramidal neurons in brain regions affected by AD, and to be involved in the regulation of cellular response to oncogenic and oxidative stress.[2-4] Seladin-1 is a human homolog of the Diminuto/Dwarf1 gene described in plants and *c. elegans*. Seladin-1 is encoded by the DHCR24 (3-β-hydroxysterol δ-24-reductase) gene, a flavin-adenine-dinucleotide (FAD)-dependent oxidoreductase, involved in cholesterol homeostasis.[5,6] It catalyzes the conversion of desmosterol to cholesterol. Disruption of cholesterol homeostasis in neurons is thought to increase cell susceptibility to toxic agents. Seladin-1 is mainly located in the endoplasmic reticulum and has been shown to effectively protect neurons from β-amyloid toxicity and oxidative stress.[2] In addition, it prevents apoptosis via inhibition of caspase-3, a key mediator of the apoptotic cascade, suggesting that seladin-1 may be involved in the regulation of cell survival and death. Decreased expression of seladin-1 in specific neurons may be a cause for selective vulnerability in AD. Seladin-1 has been shown to function as a key mediator of Ras-induced senescence in mouse and human fibroblasts. In response to oncogenic and oxidative stress, seladin-1 binds to p53 and displaces E3 ubiquitin ligase Mdm2 from p53 resulting in accumulation of p53.[4] The expression of seladin-1 has been reported to be up-regulated in adrenocortical adenomas and in some tumours.[7-9]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours. For continuous use, store at 2-8 °C for up to one month.

Product Profile

Immunoblotting: a working dilution of 1:1,000-1:2,000 is recommended using HEK293 cells expressing human seladin-1.

Note: In order to obtain best results and assay sensitivity in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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