

AP05260CP-N**SIAH1 / E3 Ubiquitin Ligase control peptide****Alternate names:**

E3 ubiquitin-protein ligase SIAH1, HUMSIAH, Seven in absentia homolog 1, Siah-1, Siah-1a

Quantity:

50 µg

Concentration:

Lot specific

Background:

Seven in absentia homolog 1 (SIAH-1) is a member of the RING-finger-containing E3 ubiquitin ligases. Alpha-synuclein and synphilin-1 are substrates of SIAH-1, both proteins are involved in the development of Parkinson's disease (PD). Mutations in Parkin, another E3 ubiquitin ligase which ubiquitinates synphilin-1 and glycosylated alpha-synuclein, have been defined as a major cause of autosomal recessive PD. The role of SIAH-1 in PD is highlighted by the fact that SIAH-1 is a component of the Lewy bodies and plays a role in apoptosis caused by nitric oxide (NO) induced oxidative stress. Glyceraldehyde-3-phosphate dehydrogenase (GAPDH) a classic glycolytic enzyme, and multi-functional protein. GAPDH plays role as a mediator for cell death. GAPDH translocates to the nucleus under a variety of stressors/conditions, most of which are associated with oxidative stress. Sequential steps lead to nuclear translocation of GAPDH during cell death; 1] a catalytic cysteine in GAPDH (C150 in rat GAPDH) is S-nitrosylated by nitric oxide (NO) which is generated from inducible nitric oxide synthase (iNOS) and/or neuronal NOS (nNOS); 2] the modified GAPDH becomes capable of binding with Siah1, an E3 ubiquitin ligase, and stabilizes it; 3] the GAPDH-Siah protein complex translocates to the nucleus, dependent on Siah1's nuclear localization signal, and degrades Siah1's substrates in the nucleus, which results in cytotoxicity. GAPDH may be genetically associated with late-onset Alzheimer's disease. (-)-deprenyl, which has been used as a monoamine oxidase inhibitor for Parkinson's disease, binds to GAPDH and has neuroprotective actions. The molecular action of this protection is as yet not clear.

Uniprot ID:

[Q8IUQ4](#)

NCBI:

[NP_001006611.1](#)

GeneID:

[6477](#)

Format:

State: Liquid purified peptide

Buffer System: Phosphate buffered saline containing 0.08% sodium azide

Applications:

Incubate antibody neat with at least a 50 fold stoichiometric excess of blocking peptide at 37°C for 20 minutes (molecular weights of peptide and antibody are ~2.5 kDa and ~160 kDa, respectively). Antibody can then be diluted to a concentration suitable for Western blot.

Example: 10 µl or 10 µg of rabbit anti-SIAH1 is added to 10 µg of blocking peptide for a total volume of 20 µl. The mixture is allowed to incubate for 20 minutes at 37°C prior to dilution in suitable buffer (for Western blot, etc.).

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

Control peptide for antibody AP05260PU-N only.

Storage: Store at -20°C.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.