

SKI-1 (D-19): sc-9786

BACKGROUND

Mammalian serine proteases function as proprotein convertases, processing inactive precursors to produce active peptides and proteins. SKI-1 (subtilisin/kexin isozyme-1) is a type I membrane-bound Ca^{2+} -dependent serine protease. SKI-1 is related to bacterial subtilisin and yeast kexin. Subtilisin is an alkaline serine protease produced by *Bacillus subtilis* 168. Kexin is a pro-hormone-processing enzyme, which is encoded by the KEX2 gene of the yeast *Saccharomyces cerevisiae*. SKI-1 is present in most tissues and cells, and it is most concentrated in liver and thyroid tissues. SKI-1 has been shown to cleave the brain-derived neurotrophic factor (BDNF) precursor to produce the mature form of BDNF.

REFERENCES

- Ikemura, H., Takagi, H. and Inouye, M. 1987. Requirement of prosequence for the production of active subtilisin E in *Escherichia coli*. J. Biol. Chem. 262: 7859-7864.
- Van de Ven, W.J., Creemers, J.W. and Roebroek, A.J. 1991. Furin: the prototype mammalian subtilisin-like proprotein-processing enzyme. Endoproteolytic cleavage at paired basic residues of proproteins of the eukaryotic secretory pathway. Enzyme 45: 257-270.
- Seidah, N.G., Day, R., Marcinkiewicz, M. and Chretien, M. 1998. Precursor convertases: an evolutionary ancient, cell-specific, combinatorial mechanism yielding diverse bioactive peptides and proteins. Ann. N.Y. Acad. Sci. 839: 9-24.
- Steiner, D.F. 1998. The proprotein convertases. Curr. Opin. Chem. Biol. 2: 31-39.

CHROMOSOMAL LOCATION

Genetic locus: MBTPS1 (human) mapping to 16q23.3; Mbtps1 (mouse) mapping to 8 E1.

SOURCE

SKI-1 (D-19) is an affinity purified goat polyclonal antibody raised against an epitope mapping within an internal region of SKI-1 of rat (identical to corresponding human sequence) origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9786 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

SKI-1 (D-19) is recommended for detection of precursor and processed SKI-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SKI-1 (D-19) is also recommended for detection of precursor and processed SKI-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SKI-1 siRNA (h): sc-36496, SKI-1 siRNA (m): sc-36497, SKI-1 shRNA Plasmid (h): sc-36496-SH, SKI-1 shRNA Plasmid (m): sc-36497-SH, SKI-1 shRNA (h) Lentiviral Particles: sc-36496-V and SKI-1 shRNA (m) Lentiviral Particles: sc-36497-V.

Molecular Weight of SKI-1 precursor: 148 kDa.

Molecular Weight of SKI-1 membrane-bound isoform: 120/106 kDa.

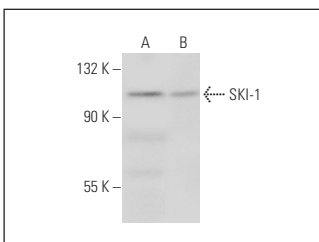
Molecular Weight of secreted SKI-1: 98 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

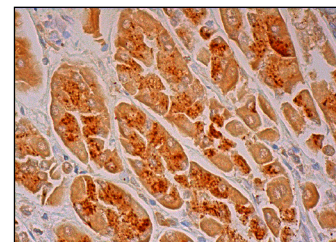
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SKI-1 (D-19): sc-9786. Western blot analysis of SKI-1 expression in K-562 (A) and IMR-32 (B) whole cell lysates.



SKI-1 (D-19): sc-9786. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.