

Furin (K-15): sc-12485

BACKGROUND

Many eukaryotic regulatory proteins are produced as inactive precursor proteins that must be cleaved to become active. The subtilisin family of serine proteases cleaves proproteins at specific sites, usually multiple or paired basic amino acid residues. Furin, the 793 amino acid homolog of the yeast endoprotease Kex2p, cleaves the precursors of a variety of proteins including growth factors, complement and blood-clotting proteases, and matrix metalloproteinases. Furin is a ubiquitous protein, found in all tissues and cell lines examined, mainly localized in the *trans*-Golgi network. It is thought to be involved primarily in the processing of precursor proteins that are secreted via the constitutive secretory pathway.

REFERENCES

- Hatsuzawa, K., et al. 1990. Structure and expression of mouse Furin, a yeast Kex2-related protease. Lack of processing of coexpressed prorenin in GH4C1 cells. *J. Biol. Chem.* 265: 22075-22078.
- Van de Ven, W.J., et al. 1991. Furin: the prototype mammalian subtilisin-like proprotein-processing enzyme. Endo-proteolytic cleavage at paired basic residues of pro-proteins of the eukaryotic secretory pathway. *Enzyme* 45: 257-270.
- Van de Ven, W.J., et al. 1993. Structure and function of eukaryotic proprotein processing enzymes of the subtilisin family of serine proteases. *Crit. Rev. Oncogene* 4: 1115-1136.
- Van de Ven, W.J., et al. 1994. Furin-mediated proprotein processing activity: involvement of negatively charged amino acid residues in the substrate binding region. *Biochimie* 76: 210-216.
- Denault, J.B., et al. 1996. Furin/PACE/SPC1: a convertase involved in exocytic and endocytic processing of precursor proteins. *FEBS Lett.* 379: 113-116.
- Nakayama, K. 1997. Furin: a mammalian subtilisin/Kex2p-like endoprotease involved in processing of a wide variety of precursor proteins. *Biochem. J.* 327: 625-635.

CHROMOSOMAL LOCATION

Genetic locus: *FURIN* (human) mapping to 15q26.1; Furin (mouse) mapping to 7 D3.

SOURCE

Furin (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Furin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12485 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Furin (K-15) is recommended for detection of Furin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Furin (K-15) is also recommended for detection of Furin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Furin siRNA (h): sc-40595, Furin siRNA (m): sc-40596, Furin shRNA Plasmid (h): sc-40595-SH, Furin shRNA Plasmid (m): sc-40596-SH, Furin shRNA (h) Lentiviral Particles: sc-40595-V and Furin shRNA (m) Lentiviral Particles: sc-40596-V.

Molecular Weight of Furin precursor: 96 kDa.

Molecular Weight of Furin mature: 90 kDa.

Molecular Weight of Furin splice variant: 60 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or C6 whole cell lysate: sc-2256.

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) 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.

SELECT PRODUCT CITATIONS

- Mayer, G., et al. 2003. Furin interacts with proMT1-MMP and Integrin α V at specialized domains of renal cell plasma membrane. *J. Cell Sci.* 116: 1763-1773.

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.



Try **Furin (B-6): sc-133142** or **Furin (G-6): sc-133141**, our highly recommended monoclonal alternatives to Furin (K-15).