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- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Furin (m): 293T Lysate: sc-126871

BACKGROUND

Furin (FUR, PACE, PCSK3, SPC1, Kex2p) is a calcium-dependent serine endoprotease that belongs to the subtilisin-like proprotein convertase family. The members of this family process latent precursor proteins into their biologically-active products. Furin cleaves at paired basic amino acid processing sites within parathyroid hormone, transforming growth factor β 1 precursor, pro-albumin, pro- β -secretase, membrane type-1 matrix metalloproteinase, β sub-unit of pro-nerve growth factor and von Willebrand factor. Furin can directly cleave proMMP-2 within the *trans*-Golgi network leading to an inactive form of matrix metalloproteinase-2 (MMP-2). Furin is synthesized as an inactive zymogen that may minimize the occurrence of premature enzymatic activity that would lead to alternative protein activation or degradation. The inhibitory mechanism is based on the presence of an inactivating prosegment at the NH₂-terminal of the Furin. After initial autocatalytic cleavage, the prosegment remains tightly associated until it reaches the *trans*-Golgi network where the dissociation of the prosegment and activation of Furin occurs.

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.
- 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.
- Rozan, L., et al. 2004. Plasticity of extended subsites facilitates divergent substrate recognition by Kex2 and Furin. *J. Biol. Chem.* 279: 35656-35663.
- Podsiadlo, P., et al. 2004. Furin inhibition by compounds of copper and zinc. *J. Biol. Chem.* 279: 36219-36227.
- Wickham, L., et al. 2005. β -amyloid protein converting enzyme 1 and brain-specific type II membrane protein BRI3: binding partners processed by Furin. *J. Neurochem.* 92: 93-102.
- Cao, J., et al. 2005. Furin directly cleaves proMMP-2 in the *trans*-Golgi network resulting in a nonfunctioning proteinase. *J. Biol. Chem.* 280: 10974-10980.

CHROMOSOMAL LOCATION

Genetic locus: Furin (mouse) mapping to 7 D3.

PRODUCT

Furin (m): 293T Lysate represents a lysate of mouse Furin transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

Furin (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Furin antibodies. Recommended use: 10-20 μ l per lane.

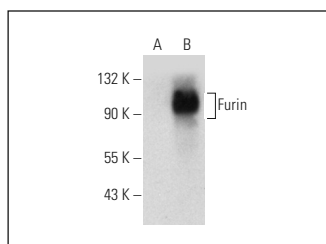
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Furin (G-6): sc-133141 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Furin expression in Furin transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

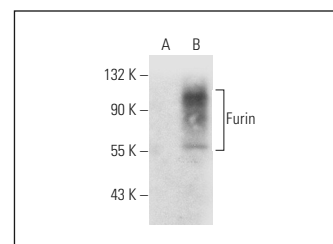
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Furin (G-6): sc-133141. Western blot analysis of Furin expression in non-transfected: sc-117752 (A) and mouse Furin transfected: sc-126871 (B) 293T whole cell lysates.



Furin (B-6): sc-133142. Western blot analysis of Furin expression in non-transfected: sc-117752 (A) and mouse Furin transfected: sc-126871 (B) 293T whole cell lysates.

RESEARCH USE

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