

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Furin in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 222722
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Furin Asp108-Glu715 Accession # NP_002560
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human Furin (Catalog # 1503-SE) under non-reducing conditions only
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Furin (Catalog # 1503-SE), see our available Western blot detection antibodies
Intracellular Staining by Flow Cytometry	2.5 µg/10 ⁶ cells	H9 human cutaneous T lymphoma cell line fixed with paraformaldehyde and permeabilized with saponin
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Furin is a member of the proprotein convertase (PC) family, which belongs to the subtilisin superfamily of serine protease (1-3). As a cellular protease, Furin processes a variety of proproteins in secretory pathway compartments by cleaving after Arg-Xaa-Lys/Arg-Arg-like motifs, which usually reside at the end of the pro regions of these proproteins. Examples of the proprotein substrates are growth factors and receptors, extracellular matrix proteins, and other proteases. Furin has an essential role in embryogenesis and homeostasis and is implicated in various pathologies such as cancer, neurodegenerative diseases and anthrax. It is synthesized as a 794 amino acid type I transmembrane protein precursor with a signal peptide (residues 1-24), a pro region (residues 25-107), which play a crucial role in the folding, activation and transport of Furin, and a mature chain (residues 108-794) (1-3). The mature chain consists of the subtilisin-like catalytic domain, a P domain, which is essential for enzyme activity and the modulation of pH and calcium requirements, and a cytoplasmic domain, which controls the localization and sorting of Furin in the *trans*-Golgi network/endosomal system. The purified recombinant human Furin (residues 108-715) corresponds to the mature enzyme terminated before the transmembrane domain.

References:

1. Van den Ouweland, A.M. *et al.* (1990) *Nucleic Acids Res.* **18**:664.
2. Barr, P.J. *et al.* (1991) *DNA Cell Biol.* **10**:319.
3. Thomas, G. (2002) *Nature Rev. Mol. Cell Biol.* **3**:753.