Human Furin APC-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 222722

Catalog Number: IC1503A

100 TESTS

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
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

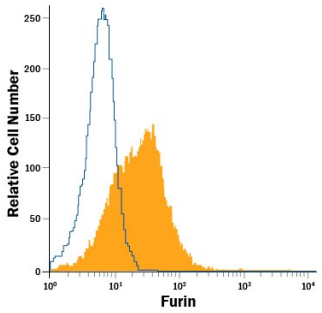
APPLICATIONS

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
Intracellular Staining by Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Intracellular Staining by Flow Cytometry



Detection of Furin in H9 Human Cell Line by Flow Cytometry. H9 human cutaneous T lymphoma cell line was stained with Mouse Anti-Human Furin APC-conjugated Monoclonal Antibody (Catalog # IC1503A, filled histogram) or isotype control antibody (Catalog # IC0041A, open histogram). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for Staining Intracellular Molecules.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Furin is a member of the Proprotein Convertase (PC) family, which belongs to the subtilisin superfamily of serine proteases (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 (aa) type I transmembrane protein precursor with a signal peptide (aa residues 1-24), a pro region (aa residues 25-107 which play a crucial role in the folding, activation and transport of Furin) and a mature chain (aaresidues 108-794). 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 that terminates before the transmembrane domain. Over aa 108-715, human and mouse Furin share 95% aa sequence identity (1-3).

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) Nat. Rev. Mol. Cell Biol. **3**:753.

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