abcam

ab89558

Anti-Furin antibody [MM0298-4G31]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human FURIN. Database link P09958
Carrier free	Yes
Clone number	MM0298-4G31
Purification technique	Affinity purification Protein G
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The IgG fraction of culture supernatant was purified by Protein G affinity chromatography and filtered through a 0.2 µm filter.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	2 µg for 10^6 Cells

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information FURIN

Function	Ubiquitous endoprotease within constitutive secretory pathways capable of cleavage at the RX(K/R)R consensus motif (PubMed:11799113, PubMed:1629222, PubMed:1713771, PubMed:2251280, PubMed:24666235, PubMed:25974265, PubMed:7592877, PubMed:7690548, PubMed:9130696). Mediates processing of TGFB1, an essential step in TGF-beta-1 activation (PubMed:7737999). Converts through proteolytic cleavage the non-functional Brain natriuretic factor prohormone into its active hormone BNP(1-32) (PubMed:20489134, PubMed:21763278). By mediating processing of accessory subunit ATP6AP1/Ac45 of the V-ATPase, regulates the acidification of dense-core secretory granules in islets of Langerhans cells (By similarity). (Microbial infection) Cleaves and activates diphtheria toxin DT. (Microbial infection) Cleaves and activates anthrax toxin protective antigen (PA). (Microbial infection) Cleaves and activates HIV-1 virus Envelope glycoprotein gp160. (Microbial infection) Required for H7N1 and H5N1 influenza virus infection probably by cleaving hemagglutinin. (Microbial infection) Able to cleave S.pneumoniae serine-rich repeat protein PsrP. (Microbial infection) Facilitates human coronaviruses EMC and SARS-CoV-2 infections by proteolytically cleaving the spike protein at the monobasic S1/S2 cleavage site. This cleavage is essential for spike protein-mediated cell-cell fusion and entry into human lung cells. (Microbial infection) Facilitates mumps virus infection by proteolytically cleaving the viral fusion protein F.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Furin is a serine endoprotease that plays critical role in the cleavage of precursor proteins into their active forms. It belongs to the proprotein convertase family and is also known as furin protease. The molecular weight of furin is approximately 54 kDa. Furin is ubiquitously expressed in various tissues in the body with high expression levels in the liver and the central nervous system. Furin is mainly located in the trans-Golgi network where it processes many precursor proteins involved in various cellular functions.
Biological function summary	Furin processes precursor proteins by cleaving at specific sequence motifs. This activity is essential for the maturation of many hormones growth factors and receptors. Furin is not part of a larger complex; it functions independently in its proteolytic activity. The processing by furin ensures that proteins become functional affecting numerous biological processes across different cell types and tissues.
Pathways	The activity of furin impacts the regulation of the Notch signaling pathway and the MAPK/ERK pathway. In the Notch signaling pathway furin processes Notch receptors facilitating their activation and downstream signaling. In the MAPK/ERK pathway furin activates several key proteins including growth factors and receptors essential for cell proliferation and differentiation. Furin-related proteins such as convertase enzymes are part of a similar family having roles in overlapping or complementary pathways.
Associated diseases and disorders	Furin is implicated in several conditions including cardiovascular diseases and certain cancers. In cardiovascular diseases furin's role in processing proteins such as pro-BNP may have implications in cardiac function and disease progression. In cancer altered furin activity can lead to the inappropriate activation of growth factors and receptors contributing to tumor progression. Furin inhibitors are researched for their potential to modulate furin activity in these diseases and provide therapeutic benefits.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

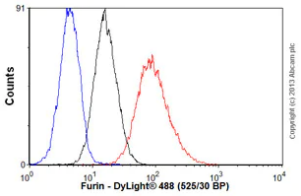
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - Anti-Furin antibody [MM0298-4G31] (ab89558)

Furin Flow Cytometry staining using mouse Anti-Furin antibody

Overlay histogram showing HeLa cells stained with ab89558 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab89558, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line). Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

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