

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Syntaxin 4 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 884637
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Syntaxin 4 Met1-Glu183 Accession # Q12846
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

Knockout Validated	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunoprecipitation	Optimal dilution of this antibody should be experimentally determined.

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

Syntaxin 4 (STX4) is a widely expressed type IV transmembrane protein that is a member of the syntaxin family of t-SNARE (target-Soluble NSF [N-ethylmaleimide-sensitive factor] Attachment REceptor) membrane fusion proteins (1, 2). For membrane fusion, VAMPs (Vesicle-Associated Membrane Proteins, also called Synaptotagmins) as v-SNAREs on donor (vesicle) membranes interact with t-SNAREs and SNAPs (Soluble NSF Attachment Proteins) on target (cell surface) membranes, with SM (Sec1/Munc18-like) accessory proteins acting as catalysts for fusion (2). Human Syntaxin 4 cDNA encodes 297 amino acids (aa) including basolateral targeting motif for epithelial cells (aa 24-29), a coiled-coil domain termed Habc (aa 43-163), an S-nitrosylation site which regulates fusion (aa 141), a hinge region, a t-SNARE domain (aa 200-262), and a C-terminal transmembrane domain (aa 276-296) (1-4). Within aa 1-183, human Syntaxin 4 shares 89% aa sequence homology with mouse and rat, and 94-95% with canine, bovine, equine, porcine, feline and ovine Syntaxin 4. Among its known roles, Syntaxin 4 and SNAP-23 or SNAP-25 associate with VAMP-2 for fusion of GLUT4-containing vesicles with the plasma membrane in muscle and adipose cells (1, 5). It is required for exocytosis of insulin from pancreatic β-cells (3, 6, 7). With SNAP23 and VAMP-3, it allows endosome recycling to extend podosomes during macrophage migration (7-9). It establishes polarization of epithelial cells, specifying basolateral sorting of proteins (4, 10). It mediates postsynaptic activity-dependent exocytosis in neural cell dendritic spines (11). It is involved in exocytosis of ANP from cardiomyocytes (12). In FAS-mediated apoptosis, it allows translocation of acid sphingomyelinase to the cell surface (13). Syntaxin 4 binds F-actin and gelsolin, linking the plasma membrane with, or releasing it from, the actin cytoskeleton (6, 7).

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