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ProductInformation

Anti-α/β-SNAP (KS-18)
Developed in Rabbit, IgG Fraction of Antiserum

Product Number **S 9319**

Product Description

Anti-α/β-SNAP (KS-18) is developed in rabbit using as immunogen a synthetic peptide encoding amino acids 140-157 located near the mid-region of mouse α-SNAP, conjugated to KLH. This sequence is identical in human, rat and bovine α-SNAP and in human, mouse, rat and bovine β-SNAP. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-α/β-SNAP (KS-18) recognizes α/β-SNAP. Applications include the detection of α/β-SNAP by immunoblotting (35 kDa, appears as doublet). Staining of α/β-SNAP in immunoblotting is specifically inhibited with the α-SNAP immunizing peptide (mouse, amino acids 140-157).

Trafficking between intracellular membrane compartments is largely mediated by vesicular transport. Proteins regulating this process are conserved in systems such as protein secretion in yeast, synaptic neurotransmission and intracellular vesicle fusion during membrane traffic in mammalian cells.[1-3] α-SNAP and β-SNAP (35 and 36 kDa respectively) are components of the exocytosis machinery.[4-6] Components of this machinery are found both at the vesicle and plasma membrane and interact to form a fusion complex that mediates specific docking and fusion of vesicles. The fusion complex contains soluble NSF attachment proteins (SNAPs) and soluble NSF-attachment protein receptors (SNAREs). SNARE proteins are present on both vesicle membranes (vesicle SNAREs or v-SNAREs) and on target membranes (target SNAREs or t-SNAREs). In the process of vesicle docking, a core complex is formed between the t-SNAREs syntaxin and SNAP-25, localized at the target presynaptic membrane and the v-SNARE synaptobrevin/VAMP proteins. SNAREs form a 7S complex containing a high affinity binding site for α-SNAP and NSF. α-SNAP binding to the SNARE complex recruits NSF to form a 20S complex. ATP hydrolysis by NSF ATPase activity induces disassembly of the 20S complex, thus facilitating vesicle fusion to the membrane and exocytosis. α-SNAP is 80% homologous to β-SNAP and is expressed in all mammalian tissues, whereas β-SNAP is expressed only in brain.[5-10] A third isoform, γ-SNAP, belongs to a subfamily of SNAPs. γ-SNAP is ubiquitously expressed in various tissues and is only 23-25% identical to α/β-SNAP.[5,6,10]

Reagent

The product is provided as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A working dilution of 1:1,000-1:2,000 is determined by immunoblotting, using a cytosolic fraction S1 of rat and mouse brain.

Note: In order to obtain best results and assay sensitivity in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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