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ProductInformation

Anti-Kinesin 5B
Developed in Rabbit, Affinity Isolated Antibody

Product Number **K 1014**

Product Description

Anti-Kinesin 5B was developed in rabbit using a synthetic peptide CI(376)DEQFDKEKANLEAFTVDKD-I(396) corresponding to amino acid residues 376-396 from human kinesin 5B as the immunogen. This sequence is 95% and 90% conserved for mouse and rat, respectively. The antibody was affinity isolated on immobilized immunogen.

Anti-Kinesin 5B detects kinesin 5B from mouse samples. This antibody is specific for kinesin 5B and does not detect other kinesin isotypes. By Western blot, this antibody detects an ~110 kDa protein representing kinesin 5B protein from mouse neuronal cell extract.

Kinesins are a superfamily of microtubule-associated motor proteins. Fueled by energy from ATP hydrolysis, they act as molecular motors to transport macromolecular cargoes such as membranous organelles and other macromolecules along microtubules.[1,2] In addition to the motor domain, subfamily members share common domain organization, exhibit sequence similarity, motility properties, and cellular functions outside of the motor domain. They have diverse and fundamental roles in many cellular processes, including neuronal development, cell division, and the pathogenesis of neuronal diseases.[3,4]

There are currently three known Kinesin 5 family members denoted as A, B, and C. Kinesin 5A and kinesin 5C appear to be exclusively neuronal, whereas kinesin 5B appears to be ubiquitous in its expression.

Reagent

The antibody is supplied as 100 µg of affinity purified IgG (1 mg/ml) in phosphate buffered saline containing 1 mg/ml BSA and 0.05% sodium azide as 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 hazards and safe handling.

Storage/Stability

Store at –20 °C. For extended storage, freeze in working aliquots. Avoid repeated freezing and thawing. Storage in "frost-free" freezers is not recommended. Centrifuge before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution is 0.5 µg/ml for immunoblotting.

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

References

1. Endow, S.A., Kinesin motors as molecular machines, Bioessays., **25,** 1212-1219 (2003).
2. Seog, D.H., et al., Molecular motor proteins of the kinesin superfamily proteins (KIFs): structure, cargo and disease, J. Korean. Med. Sci., **19**, 1-7 (2004).
3. Hirokawa N. and Takemura, R., Molecular motors in neuronal development, intracellular transport and diseases, Curr. Opin. Neurobiol., **14**, 564-573 (2004).
4. Reid, E., et al., A kinesin heavy chain (KIF5A) mutation in hereditary spastic paraplegia (SPG10), Am. J. Hum. Genet., **71**, 1189-1194 (2002).

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