Qty: 100 µg/400 µL

Rabbit anti-Kinesin

Catalog No. 40-8100

Lot No.

Rabbit anti-Kinesin

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.502

IMMUNOGEN

Bacterially expressed cDNA encoding full-length human neuronal kinesin heavy chain, which shares 96% homology with mouse

SPECIFICITY

This antibody is specific for the FKHC3 coiled-coil stalk domain of kinesin protein. On Western blots, it identifies the target band at ~120-130 kDa.

REACTIVITY

Reactivity has been confirmed with pig and mouse brain homogenates and HEK 293T lysates by Western blotting, and with mouse 3T3 cells by immunocytochemistry.

Sample	Western Blotting	Immunocytochemistry
Human	+++	ND
Mouse	+++	+++
Pig	+++	ND
Immunogen	N/A	N/A

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 1–3 µg/mL
Immunocytochemistry: 0.5 – 1.0 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

BACKGROUND

Active transport in cells is driven by three distinct classes of molecular motors: the kinesin family that moves toward the plus-end of microtubules, the dynein family that moves toward the minus-end of microtubules, and myosin motors that move along actin filaments[1].

Kinesins are microtubule-based motor proteins involved in the transport of organelles in eukaryotic cells. They typically consist of 2 identical, ~110-120 kDa heavy chains and 2 identical, ~60-70 kDa light chains. The heavy chain contains 3 domains: a globular N-terminal motor domain, which converts the chemical energy of ATP into a motile force along microtubules in one fixed direction, a central alpha-helical rod domain (stalk domain) which enables the 2 heavy chains to dimerize, and a globular C-domain which interacts with light chains and organelle receptors[2-3]. Kinesin proteins operate as a dimer, traveling in a coordinated manner along microtubule profilaments[4-5]. Human kinesins can be classified into three groups based on the position of their motor domains: N-terminal, C-terminal, and internal. There are three known kinesin family members denoted as A, B and C. Kinesins 5A and 5C are exclusively neuronal, whereas 5B appears to be ubiquitous in expression.

REFERENCES

1. Mallik R, et al. *Curr Biol* 14(22):R971-982, 2004.
2. Pfister K, et al. *J Cell Biol* 108(4):1453-1463, 1989.
3. Skoufias DA, et al. *J Biol Chem* 269(2):1477-1485, 1994.
4. Kull FJ, et al. *Essays Biochem* 35:61-73, 2000.
5. Diefenbach RJ, et al. *Biochem Biophys Res Commun* 319(3):987-992, 2004.

RELATED PRODUCTS

Product	***Conjugate***	***Cat. No.***
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

Conjugate	**ZyMAX™ Goat x Rabbit IgG (H+L)**	**ZyMAX™ Goat x Mouse IgG (H+L)**
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

For Research Use Only

AC311005