

UKHC (F-5): sc-133184



The Power to Question

BACKGROUND

The kinesin motor proteins include at least two forms of conventional kinesin encoded by different genes and designated as ubiquitous kinesin, which is expressed in all cells and tissues, or neuronal kinesin, which is expressed exclusively in neural cells. Kinesin is a microtubule associated protein comprised of three different structural domains. A considerable globular N-terminal domain regulates the hydrolysis of ATP and also microtubule binding while central coiled-coil domains promote heavy chain dimerization. Lastly, small globular C-terminal domains interact with kinesin light chains, membranous organelles and vesicles. Expression of ubiquitous kinesin heavy chain, also designated UKHC, is found subcellularly in areas of heavy vesicular trafficking such as the microtubule pathways of neural cells and also the Golgi of non-neural cell types.

CHROMOSOMAL LOCATION

Genetic locus: KIF5B (human) mapping to 10p11.22; Kif5b (mouse) mapping to 18 A1.

SOURCE

UKHC (F-5) is a mouse monoclonal antibody raised against amino acids 691-740 mapping within an internal region of UKHC of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UKHC (F-5) is available conjugated to agarose (sc-133184 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133184 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133184 PE), fluorescein (sc-133184 FITC), Alexa Fluor® 488 (sc-133184 AF488), Alexa Fluor® 546 (sc-133184 AF546), Alexa Fluor® 594 (sc-133184 AF594) or Alexa Fluor® 647 (sc-133184 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133184 AF680) or Alexa Fluor® 790 (sc-133184 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

UKHC (F-5) is recommended for detection of ubiquitous kinesin heavy chain (UKHC) of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UKHC siRNA (h): sc-36777, UKHC siRNA (m): sc-36778, UKHC shRNA Plasmid (h): sc-36777-SH, UKHC shRNA Plasmid (m): sc-36778-SH, UKHC shRNA (h) Lentiviral Particles: sc-36777-V and UKHC shRNA (m) Lentiviral Particles: sc-36778-V.

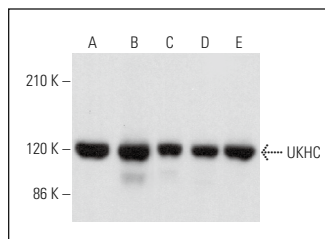
Molecular Weight of UKHC: 120 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

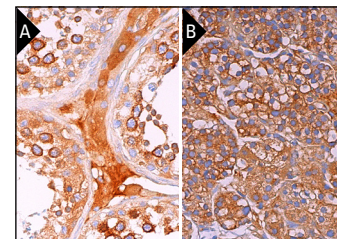
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



UKHC (F-5): sc-133184. Western blot analysis of UKHC expression in Jurkat (A), HeLa (B) and NCI-H1299 (C) whole cell lysates and mouse brain (D) and mouse cerebellum (E) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



UKHC (F-5): sc-133184. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and membrane staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human parathyroid gland tissue showing cytoplasmic and membrane staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Jung, M., et al. 2019. Unified single-cell analysis of testis gene regulation and pathology in five mouse strains. *Elife* 8: e43966.
- Lv, J., et al. 2020. Isoliquiritigenin inhibits melanogenesis, melanocyte dendricity and melanosome transport by regulating ERK-mediated MITF degradation. *Exp. Dermatol.* 29: 149-157.
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- Halbi, G., et al. 2021. Nano-particles carried by multiple dynein motors self-regulate their number of actively participating motors. *Int. J. Mol. Sci.* 22: 8893.
- Andreu-Carbó, M., et al. 2022. Motor usage imprints microtubule stability along the shaft. *Dev. Cell* 57: 5-18.e8.
- Didaskalou, S., et al. 2023. HURP localization in metaphase is the result of a multi-step process requiring its phosphorylation at Ser627 residue. *Front. Cell Dev. Biol.* 11: 981425.
- Lou, J.X., et al. 2023. Kinesin-1 regulates endocytic trafficking of classical swine fever virus along acetylated microtubules. *J. Virol.* 97: e0192922.
- Sun, J., et al. 2023. Cadmium promotes nonalcoholic fatty liver disease by inhibiting intercellular mitochondrial transfer. *Cell. Mol. Biol. Lett.* 28: 87.
- Xie, M.X., et al. 2024. Endophilin A2 controls touch and mechanical allodynia via kinesin-mediated Piezo2 trafficking. *Mil. Med. Res.* 11: 17.
- Andreu-Carbó, M., et al. 2024. Microtubule damage shapes the acetylation gradient. *Nat. Commun.* 15: 2029.

RESEARCH USE

For research use only, not for use in diagnostic procedures.