KIF20A (D-3): sc-374508

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Kinesins constitute a large family of microtubule-dependent motor proteins which are responsible for the distribution of numerous organelles, vesicles and macromolecular complexes throughout the cell. Individual Kinesin members play crucial roles in cell division, intracellular transport and membrane trafficking events, including endocytosis and transcytosis. KIF20A (Kinesin family member 20A), also known as Rabkinesin-6, RAB6KIFL (Rab6-interacting Kinesin-like protein), GG10_2 or MKLP2 (mitotic Kinesin-like protein 2), is a 890 amino acid protein that contains one Kinesin-motor domain and belongs to the Kinesin-like protein family. KIF20A locates to the Golgi apparatus and interacts with guanosine triphosphate (GTP)-bound forms of RAB 6. KIF20A may be responsible for the retrograde RAB 6 regulated transport of Golgi membranes and related vesicles along microtubules.

CHROMOSOMAL LOCATION

Genetic locus: KIF20A (human) mapping to 5q31.2; Kif20a (mouse) mapping to 18 B1.

SOURCE

KIF20A (D-3) is a mouse monoclonal antibody raised against amino acids 592-890 mapping at the C-terminus of KIF20A of human origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KIF20A (D-3) is available conjugated to agarose (sc-374508 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374508 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374508 PE), fluorescein (sc-374508 FITC), Alexa Fluor® 488 (sc-374508 AF488), Alexa Fluor® 546 (sc-374508 AF546), Alexa Fluor® 594 (sc-374508 AF594) or Alexa Fluor® 647 (sc-374508 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374508 AF680) or Alexa Fluor® 790 (sc-374508 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

KIF20A (D-3) is recommended for detection of KIF20A 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 KIF20A siRNA (h): sc-91657, KIF20A siRNA (m): sc-146470, KIF20A shRNA Plasmid (h): sc-91657-SH, KIF20A shRNA Plasmid (m): sc-146470-SH, KIF20A shRNA (h) Lentiviral Particles: sc-91657-V and KIF20A shRNA (m) Lentiviral Particles: sc-146470-V.
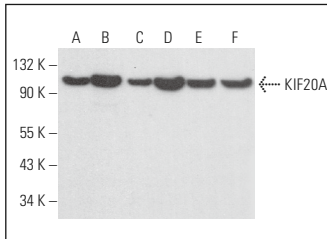
Molecular Weight of KIF20A: 100 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, T24 cell lysate: sc-2292 or A2058 whole cell lysate: sc-364178.
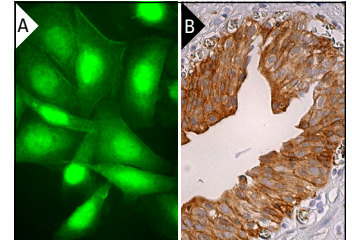
STORAGE

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

DATA

KIF20A (D-3): sc-374508. Western blot analysis of KIF20A expression in Hep G2 (**A**), T24 (**B**), RT-4 (**C**), HEL 92.1.7 (**D**), A2058 (**E**) and AT3B-1 (**F**) whole cell lysates.

KIF20A (D-3) Alexa Fluor® 488: sc-374508 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and membrane localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). KIF20A (D-3): sc-374508. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and membrane staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Taniuchi, K., et al. 2014. KIF20A-mediated RNA granule transport system promotes the invasiveness of pancreatic cancer cells. Neoplasia 16: 1082-1093.

2. Vallejo, A., et al. 2017. An integrative approach unveils FOSL1 as an oncogene vulnerability in KRAS-driven lung and pancreatic cancer. Nat. Commun. 8: 14294.

3. Kawai, Y., et al. 2018. KIF20A expression as a prognostic indicator and its possible involvement in the proliferation of ovarian clear-cell carcinoma cells. Oncol. Rep. 40: 195-205.

4. Mahajan, D., et al. 2019. Dopey1-Mon2 complex binds to dual-lipids and recruits Kinesin-1 for membrane trafficking. Nat. Commun. 10: 3218.

5. Li, Y., et al. 2020. Cyclin F and KIF20A, FOXM1 target genes, increase proliferation and invasion of ovarian cancer cells. Exp. Cell Res. 395: 112212.

6. Vukušic, K., et al. 2021. Microtubule-sliding modules based on Kinesins EG5 and PRC1-dependent KIF4A drive human spindle elongation. Dev. Cell 56: 1253-1267.e10.

7. Petsalaki, E. and Zachos, G. 2021. An ATM-Chk2-INCENP pathway activates the abscission checkpoint. J. Cell Biol. 220: e202008029.

8. Schossig, P., et al. 2023. Target selection for T-cell therapy in epithelial ovarian cancer: systematic prioritization of self-antigens. Int. J. Mol. Sci. 24: 2292.

RESEARCH USE

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