

# KBP (K-15): sc-162985

## BACKGROUND

KBP (KIF1-binding protein), also known as KIAA1279, is a 621 amino acid mitochondrial protein that is highly expressed in heart, brain, ovary, testis and spinal cord, with lower levels of expression found in most adult tissues. Belonging to the KIF1-binding protein family, KBP may be involved in the regulation of mitochondrial transport by modulating the motor activity of KIF1B. KBP is also required for the organization of axonal microtubules, as well as for the maintenance of axonal growth during peripheral and central nervous system development. The gene encoding KBP maps to human chromosome 10q22.1 and mouse chromosome 10 B4. Defects to the gene encoding KBP has been linked to Goldberg-Shprintzen megacolon syndrome, a neurological disorder characterized by microcephaly, mental retardation and facial dysmorphism.

## REFERENCES

1. Brooks, A.S., et al. 2005. Homozygous nonsense mutations in KIAA1279 are associated with malformations of the central and enteric nervous systems. *Am. J. Hum. Genet.* 77: 120-126.
2. Wozniak, M.J., et al. 2005. The novel protein KBP regulates mitochondria localization by interaction with a kinesin-like protein. *BMC Cell Biol.* 6: 35.
3. Murphy, H.R., et al. 2006. Two brothers with Goldberg-Shprintzen syndrome. *Clin. Dysmorphol.* 15: 165-169.
4. de Wit, M.C., et al. 2008. Cortical brain malformations: effect of clinical, neuroradiological, and modern genetic classification. *Arch. Neurol.* 65: 358-366.
5. Lyons, D.A., et al. 2008. KBP is essential for axonal structure, outgrowth and maintenance in zebrafish, providing insight into the cellular basis of Goldberg-Shprintzen syndrome. *Development* 135: 599-608.
6. Jiang, Q., et al. 2011. Copy number variants in candidate genes are genetic modifiers of Hirschsprung disease. *PLoS ONE* 6: e21219.

## CHROMOSOMAL LOCATION

Genetic locus: KIAA1279 (human) mapping to 10q22.1; 2510003E04Rik (mouse) mapping to 10 B4.

## SOURCE

KBP (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KBP of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-162985 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

KBP (K-15) is recommended for detection of KBP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

KBP (K-15) is also recommended for detection of KBP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KBP siRNA (h): sc-90661, KBP siRNA (m): sc-146346, KBP shRNA Plasmid (h): sc-90661-SH, KBP shRNA Plasmid (m): sc-146346-SH, KBP shRNA (h) Lentiviral Particles: sc-90661-V and KBP shRNA (m) Lentiviral Particles: sc-146346-V.

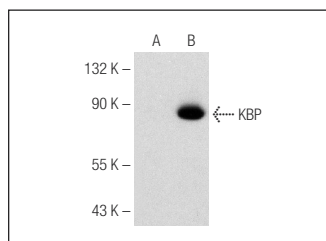
Molecular Weight of KBP: 72 kDa.

Positive Controls: KBP (m3): 293T Lysate: sc-121185.

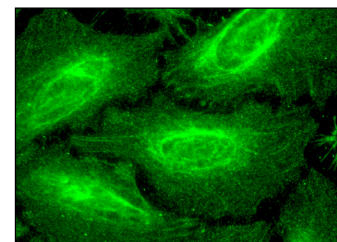
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



KBP (K-15): sc-162985. Western blot analysis of KBP expression in non-transfected: sc-117752 (A) and mouse KBP transfected: sc-121185 (B) 293T whole cell lysates.



KBP (K-15): sc-162985. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

## RESEARCH USE

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

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Try **KBP (H-12): sc-390449**, our highly recommended monoclonal alternative to KBP (K-15).