

WHDC1 (K-13): sc-136951

BACKGROUND

WHDC1, also known as Whamm (WAS protein homolog associated with actin, Golgi membranes and microtubules), is a 793 amino acid protein that contains 2 WH2 domains. The WHDC1 protein acts as a nucleation-promoting factor (NPF) that stimulates Arp2/3-mediated actin polymerization both at the Golgi apparatus and along tubular membranes. Involved as a regulator of Golgi positioning and morphology, WHDC1 participates in vesicle transport between the endoplasmic reticulum and the Golgi complex. The N-terminal region of WHDC1 associates with membranes, while the coiled-coil region binds to microtubules and the WH2 domains promotes actin nucleation. Existing as four alternatively spliced isoforms, the WHDC1 gene is conserved in human, chimpanzee, canine, bovine, rat, chicken and zebrafish, and maps to human chromosome 15q25.2. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and is about 3% of the human genome. Tay-Sachs disease is a lethal disorder associated with mutations of the HEXA gene, which is encoded by chromosome 15. Marfan syndrome is associated with chromosome 15 through the FBN1 gene.

REFERENCES

1. Shibata, K., et al. 2000. RIKEN integrated sequence analysis (RISA) system—384-format sequencing pipeline with 384 multicapillary sequencer. *Genome Res.* 10: 1757-1771.
2. Carninci, P., et al. 2005. The transcriptional landscape of the mammalian genome. *Science* 309: 1559-1563.
3. Katayama, S., et al. 2005. Antisense transcription in the mammalian transcriptome. *Science* 309: 1564-1566.
4. Zody, M.C., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. *Nature* 440: 671-675.
5. Cachón-González, M.B., et al. 2006. Effective gene therapy in an authentic model of Tay-Sachs-related diseases. *Proc. Natl. Acad. Sci. USA* 103: 10373-10378.
6. Campellone, K.G., et al. 2008. WHAMM is an Arp2/3 complex activator that binds microtubules and functions in ER to Golgi transport. *Cell* 134: 148-161.

CHROMOSOMAL LOCATION

Genetic locus: WHAMM (human) mapping to 15q25.2.

SOURCE

WHDC1 (K-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of WHDC1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136951 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

WHDC1 (K-13) is recommended for detection of WHDC1 isoforms 1 and 2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with WHDC1L2 family member.

Suitable for use as control antibody for WHDC1 siRNA (h): sc-90314, WHDC1 shRNA Plasmid (h): sc-90314-SH and WHDC1 shRNA (h) Lentiviral Particles: sc-90314-V.

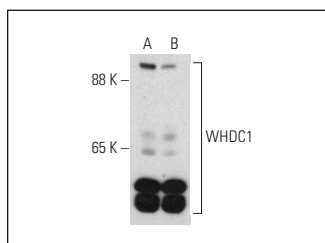
Molecular Weight of WHDC1 isoforms: 48-91 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or SH-SY5Y cell lysate: sc-3812.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



WHDC1 (K-13): sc-136951. Western blot analysis of WHDC1 expression in IMR-32 (A) and SH-SY5Y (B) whole cell lysates.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.