## BACKGROUND

Bardet-Biedl syndrome (BBS) is a pleiotropic genetic disorder characterized by obesity, photoreceptor degeneration, polydactyly, hypogenitalism, renal abnormalities, and developmental delay. Other associated clinical findings in BBS patients include diabetes, hypertension, and congenital heart defects. BBS is a heterogeneous disorder; BBS genes map to eight genetic loci and encode eight proteins, BBS1-BBS8. Five BBS genes encode basal body or cilia proteins, suggesting that BBS is a ciliary dysfunction disorder. BBS4 is expressed in the olfactory epithelium and localizes to the centriolar satellites of centrosomes and basal bodies of primary cilia. BBS4 regulates the p150 subunit of the dynein transport machinery (DCTN1) to attract pericentriolar material-1 protein (PCM1) and its associated components to the satellites. Loss of BBS4 is correlated with obesity caused by abnormal lipid profiles, liver dysfunction, elevated Insulin, and abnormal leptin levels.

## REFERENCES

1. Ahmad, J., et al. 2005. DFNB48, a new nonsyndromic recessive deafness locus, maps to chromosome 15q23-q25.1. Hum. Genet. 116: 407-412.
2. Dollfus, H., et al. 2005. Update on Bardet-Biedl syndrome. J. Fr. Ophtalmol. 28: 106-112.
3. Heon, E., et al. 2005. Ocular phenotypes of three genetic variants of Bardet-Biedl syndrome. Am. J. Med. Genet. A 132: 283-287.
4. Hichri, H., et al. 2005. Testing for triallelism: analysis of six BBS genes in a Bardet-Biedl syndrome family cohort. Eur. J. Hum. Genet. 13: 607-616.
5. Iannaccone, A., et al. 2005. Clinical evidence of decreased olfaction in Bardet-Biedl syndrome caused by a deletion in the BBS4 gene. Am. J. Med. Genet. A 132A: 343-346.
6. Karmous-Benailly, H., et al. 2005. Antenatal presentation of Bardet-Biedl syndrome may mimic Meckel syndrome. Am. J. Hum. Genet. 76: 493-504.
7. Lee, S., et al. 2005. Essential role for the Prader-Willi syndrome protein necdin in axonal outgrowth. Hum. Mol. Genet. 14: 627-37.
8. Nakane, T., et al. 2005. No evidence for triallelic inheritance of MKKS/BBS loci in Amish Mckusick-Kaufman syndrome. Am. J. Med. Genet. A. 138: 32-4.
9. Eichers, E.R., Abd-EI-Barr, M.M., Paylor, R., Lewis, R.A., Bi, W., Lin, X., Meehan, T.P., Stockton, D.W., Wu, S.M., Lindsay, E., Justice, M.J., Beales, P.L., Katsanis, N. and Lupski, J.R. 2006. Phenotypic characterization of Bbs4 null and variable expressivity. Hum. Genet.120: 211-226.

## CHROMOSOMAL LOCATION

Genetic locus: BBS4 (human) mapping to 15q24.1; Bbs4 (mouse) mapping to 9 B .

## SOURCE

BBS4 (1292CT845.130.218) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 1-240 of BBS4 of human origin.

## PRODUCT

Each vial contains $100 \mu \mathrm{glg} \mathrm{g}_{1}$ in 1.0 ml of PBS with $<0.1 \%$ sodium azide and $0.1 \%$ gelatin.

## APPLICATIONS

BBS4 (1292CT845.130.218) is recommended for detection of BBS4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 $\mu \mathrm{g}$ per 100-500 $\mu \mathrm{g}$ of total protein ( 1 ml of cell lysate)).

Suitable for use as control antibody for BBS4 siRNA (h): sc-60255, BBS4 siRNA (m): sc-60256, BBS4 shRNA Plasmid (h): sc-60255-SH, BBS4 shRNA Plasmid (m): sc-60256-SH, BBS4 shRNA (h) Lentiviral Particles: sc-60255-V and BBS4 shRNA (m) Lentiviral Particles: sc-60256-V.

Molecular Weight of BBS4: 58 kDa .
Positive Controls: HeLa whole cell lysate: sc-2200 or U-251-MG whole cell lysate: sc-364176.

## DATA



BBS4 (1292CT845.130.218): sc-517315. Western
blot analysis of BBS4 expression in HeLa (A) and U-251-MG (B) whole cell lysates

## STORAGE

Store at $4^{\circ} \mathrm{C},{ }^{* *}$ 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 for detailed protocols and support products.

