

# DBR1 (K-12): sc-99369

## BACKGROUND

DBR1 (debranching enzyme homolog 1) is a 544 amino acid protein that localizes to the nucleus and belongs to the lariat debranching enzyme family. Functioning at an optimal pH of 7.0, DBR1 uses divalent metal cations to catalyze the cleavage of the 2'-5' phosphodiester linkage at the branch point of lariat intron pre-mRNAs, thereby converting the lariat structures to linear molecules that are subject to degradation. Via its catalytic activity, DBR1 facilitates ribonucleotide turnover and is thought to participate in retroviral (specifically HIV-1) replication. Human DBR1 shares 79% homology with its mouse counterpart, suggesting a conserved role between species. DBR1 is expressed as two alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 3.

## REFERENCES

1. Arenas, J. and Hurwitz, J. 1987. Purification of a RNA debranching activity from HeLa cells. *J. Biol. Chem.* 262: 4274-4279.
2. Chapman, K.B. and Boeke, J.D. 1991. Isolation and characterization of the gene encoding yeast debranching enzyme. *Cell* 65: 483-492.
3. Kim, J.W., Kim, H.C., Kim, G.M., Yang, J.M., Boeke, J.D. and Nam, K. 2000. Human RNA lariat debranching enzyme cDNA complements the phenotypes of *Saccharomyces cerevisiae* DBR1 and *Schizosaccharomyces pombe* DBR1 mutants. *Nucleic Acids Res.* 28: 3666-3673.
4. Martin, A., Schneider, S. and Schwer, B. 2002. Prp43 is an essential RNA-dependent ATPase required for release of lariat-intron from the spliceosome. *J. Biol. Chem.* 277: 17743-17750.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607024. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Khalid, M.F., Damha, M.J., Shuman, S. and Schwer, B. 2005. Structure-function analysis of yeast RNA debranching enzyme (DBR1), a manganese-dependent phosphodiesterase. *Nucleic Acids Res.* 33: 6349-6360.

## CHROMOSOMAL LOCATION

Genetic locus: DBR1 (human) mapping to 3q22.3; Dbr1 (mouse) mapping to 9 E3.3.

## SOURCE

DBR1 (K-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of DBR1 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-99369 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

DBR1 (K-12) is recommended for detection of DBR1 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).

Suitable for use as control antibody for DBR1 siRNA (h): sc-77921, DBR1 siRNA (m): sc-142883, DBR1 shRNA Plasmid (h): sc-77921-SH, DBR1 shRNA Plasmid (m): sc-142883-SH, DBR1 shRNA (h) Lentiviral Particles: sc-77921-V and DBR1 shRNA (m) Lentiviral Particles: sc-142883-V.

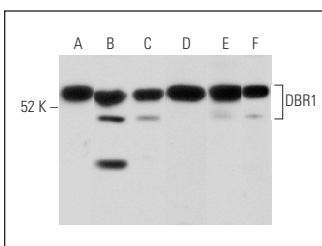
Molecular Weight of DBR1: 62 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, HeLa nuclear extract: sc-2120 or Hep G2 cell lysate: sc-2227.

## 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



DBR1 (K-12): sc-99369. Western blot analysis of DBR1 expression in U-251-MG (A), A549 (B), Hep G2 (C) and PC-12 (D) whole cell lysates, human tonsil tissue extract (E) and HeLa nuclear extract (F).

## RESEARCH USE

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

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Try **DBR1 (3A7): sc-517060**, our highly recommended monoclonal alternative to DBR1 (K-12).