

DUE-B (D-7): sc-515087

BACKGROUND

DUE-B, also known as DTD1 (D-tyrosyl-tRNA deacylase 1) or HARS2, is a 209 amino acid protein that localizes to the cytoplasm and belongs to the DTD family. Expressed in several adult and fetal tissues with higher expression in ovary, spleen and testis, DUE-B functions to catalyze the hydrolysis of D-tyrosyl-tRNA(Tyr) into D-tyrosine and free tRNA(Tyr), an event that may serve as an important defense mechanism against D-tyrosine. Additionally, DUE-B is thought to play an important role in the S phase of the cell cycle, as well as in the initiation of DNA replication. Human DUE-B shares 94% sequence identity with its mouse counterpart, suggesting a conserved function between species. The gene encoding DUE-B maps to human chromosome 20, which houses over 600 genes and comprises nearly 2% of the human genome.

REFERENCES

1. Soutourina, J., et al. 2000. D-tyrosyl-tRNA(Tyr) metabolism in *Saccharomyces cerevisiae*. *J. Biol. Chem.* 275: 11626-11630.
2. Meng, X., et al. 2002. Cloning and identification of a novel cDNA which may be associated with FKBP25. *Biochem. Genet.* 40: 303-310.
3. Casper, J.M., et al. 2005. The c-Myc DNA-unwinding element-binding protein modulates the assembly of DNA replication complexes *in vitro*. *J. Biol. Chem.* 280: 13071-13083.
4. Moaddel, R., et al. 2005. The synthesis and initial characterization of an immobilized DNA unwinding element binding (DUE-B) protein chromatographic stationary phase. *J. Chromatogr. B Analyt. Technol. Biomed. Life Sci.* 820: 197-203.
5. Ghosh, M., et al. 2006. Differential binding of replication proteins across the human c-Myc replicator. *Mol. Cell. Biol.* 26: 5270-5283.

CHROMOSOMAL LOCATION

Genetic locus: DTD1 (human) mapping to 20p11.23; Dtd1 (mouse) mapping to 2 G1.

SOURCE

DUE-B (D-7) is a mouse monoclonal antibody raised against amino acids 1-159 mapping at the N-terminus of DUE-B of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DUE-B (D-7) is available conjugated to agarose (sc-515087 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515087 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515087 PE), fluorescein (sc-515087 FITC), Alexa Fluor[®] 488 (sc-515087 AF488), Alexa Fluor[®] 546 (sc-515087 AF546), Alexa Fluor[®] 594 (sc-515087 AF594) or Alexa Fluor[®] 647 (sc-515087 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515087 AF680) or Alexa Fluor[®] 790 (sc-515087 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DUE-B (D-7) is recommended for detection of DUE-B 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DUE-B siRNA (h): sc-77189, DUE-B siRNA (m): sc-143190, DUE-B shRNA Plasmid (h): sc-77189-SH, DUE-B shRNA Plasmid (m): sc-143190-SH, DUE-B shRNA (h) Lentiviral Particles: sc-77189-V and DUE-B shRNA (m) Lentiviral Particles: sc-143190-V.

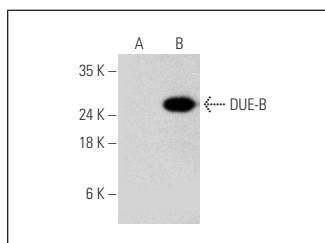
Molecular Weight of DUE-B: 24 kDa.

Positive Controls: DUE-B (m): 293T Lysate: sc-126745.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



DUE-B (D-7): sc-515087. Western blot analysis of DUE-B expression in non-transfected (A) and mouse DUE-B transfected: sc-126745 (B) 293T 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 for detailed protocols and support products.