SANTA CRUZ BIOTECHNOLOGY, INC.

DPH5 (G-15): sc-104223

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The translation elongation factor 2 in eukaryotes (eEF-2) contains a unique post-translationally modified histidine residue, termed diphthamide, which serves as the only target for diphtheria toxin and *Pseudomonas aeruginosa* exotoxin A. Diphthamide biosynthesis is carried out by five highly conserved proteins, DPH1 to DPH5. The DPH protein family is evolutionarily conserved throughout eukaryotes. The DPH5 gene maps to chromosome 1 and encodes five isoforms as a result of alternative splicing events. Chromosome 1 is the largest human chromosome spanning about 260 million base pairs. Notable genes located on chromosome 1 include MUTYH, Hutchinson-Gilford progeria, Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome.

REFERENCES

1. Chen, J.Y. and Bodley, J.W. 1988. Biosynthesis of diphthamide in *Saccharomyces cerevisiae*. Partial purification and characterization of a specific S-adenosylmethionine:elongation factor 2 methyltransferase. J. Biol. Chem. 263: 11692-11696.
2. Mattheakis, L.C., et al. 1992. DPH5, a methyltransferase gene required for diphthamide biosynthesis in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 12: 4026-4037.
3. Liu, S., et al. 2004. Identification of the proteins required for biosynthesis of diphthamide, the target of bacterial ADP-ribosylating toxins on translation elongation factor 2. Mol. Cell. Biol. 24: 9487-9497.
4. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
5. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.

CHROMOSOMAL LOCATION

Genetic locus: DPH5 (human) mapping to 1p21.2; Dph5 (mouse) mapping to 3 G1.

SOURCE

DPH5 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DPH5 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-104223 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.

PROTOCOLS

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

APPLICATIONS

DPH5 (G-15) is recommended for detection of DPH5 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); non cross-reactive with family member DPH2.

DPH5 (G-15) is also recommended for detection of DPH5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DPH5 siRNA (h): sc-88546, DPH5 siRNA (m): sc-105315, DPH5 shRNA Plasmid (h): sc-88546-SH, DPH5 shRNA Plasmid (m): sc-105315-SH, DPH5 shRNA (h) Lentiviral Particles: sc-88546-V and DPH5 shRNA (m) Lentiviral Particles: sc-105315-V.

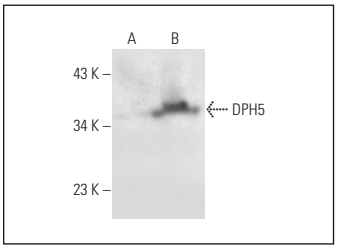
Molecular Weight of DPH5 isoforms: 32/26/31/33 kDa.

Positive Controls: DPH5 (m): 293T Lysate: sc-119830.

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



DPH5 (G-15): sc-104223. Western blot analysis of DPH5 expression in non-transfected: sc-117752 (**A**) and mouse DPH5 transfected: sc-119830 (**B**) 293T whole cell lysates.

RESEARCH USE

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