SANTA CRUZ BIOTECHNOLOGY, INC.

# DPH2 (6E7): sc-101200

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

DPH2 (diphthamide biosynthesis protein 2), also known as DPH2L2, is a 489 amino acid protein that shows strong expression in skeletal muscle; moderate expression in heart, small intestine, liver, pancreas, testis and colon; and lesser expression in brain, placenta, kidney, spleen, thymus, prostate, ovary and lymphocytes. DPH2 interacts with DPH1 and, functioning together as a dimer or multimer, DPH1 and DPH2 may participate in diphthamide biosynthesis. Diphthamide is a posttranslationally modified histidine residue which occurs in EF-2 (elongation factor 2) and targets diphtheria toxin ADP-ribosylation. The loss of DPH2 in Saccharomyces cerevisiae is believed to suppress zymocicity. Two transcript variants encoding different isoforms have been found for this gene.

## REFERENCES


1. Mattheakis, L.C., Sor, F. and Collier, R.J. 1993. Diphthamide synthesis in *Saccharomyces cerevisiae:* structure of the DPH2 gene. Gene 132: 149-154.
2. Phillips, N.J., Zeigler, M.R. and Deaven, L.L. 1996. A cDNA from the ovarian cancer critical region of deletion on chromosome 17p13.3. Cancer Lett. 102: 85-90.
3. Schultz, D.C., Balasara, B.R., Testa, J.R. and Godwin, A.K. 1998. Cloning and localization of a human diphthamide biosynthesis-like protein-2 gene, DPH2L2. Genomics 52: 186-191.
4. Fichtner, L., Jablonowski, D., Schierhorn, A., Kitamoto, H.K., Stark, M.J. and Schaffrath, R. 2003. Elongator's toxin-target (TOT) function is nuclear localization sequence dependent and suppressed by posttranslational modification. Mol. Microbiol. 49: 1297-1307.
5. Liu, S., Milne, G.T., Kuremsky, J.G., Fink, G.R. and Leppla, S.H. 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.
6. Chen, C.M. and Behringer, R.R. 2005. OVCA1: tumor suppressor gene. Curr. Opin. Genet. Dev. 15: 49-54.


## CHROMOSOMAL LOCATION

Genetic locus: DPH2 (human) mapping to 1p34.1; Dph2 (mouse) mapping to 4 D2.1.

## SOURCE

DPH2 (6E7) is a mouse monoclonal antibody raised against recombinant DPH2 of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

DPH2 (6E7) is recommended for detection of DPH2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for DPH2 siRNA (h): sc-78577, DPH2 siRNA (m): sc-143158, DPH2 shRNA Plasmid (h): sc-78577-SH, DPH2 shRNA Plasmid (m): sc-143158-SH, DPH2 shRNA (h) Lentiviral Particles: sc-78577-V and DPH2 shRNA (m) Lentiviral Particles: sc-143158-V.

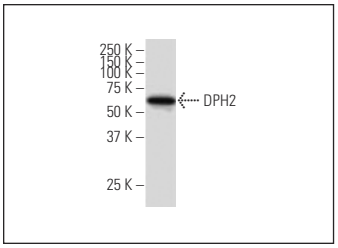
Molecular Weight of DPH2: 61 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

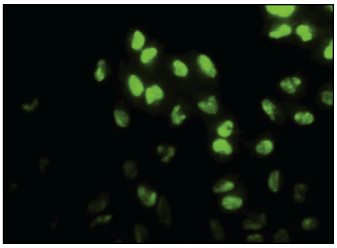
## RECOMMENDED SUPPORT REAGENTS

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) 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




DPH2 (6E7): sc-101200. Western blot analysis of DPH2 expression in HeLa whole cell lysate.



DPH2 (6E7): sc-101200. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

## 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.