

IMPDH (N-17): sc-46149

BACKGROUND

A member of the GMPPR family, inosine-5'-monophosphate dehydrogenase 1 (IMPDH1) functions in the regulation of cell growth by catalyzing the rate-limiting step in the *de novo* synthesis of guanine nucleotides. IMPDH1 is a ubiquitously expressed homotetramer that plays an important role in cyclic nucleoside metabolism within photoreceptors. Expression of IMPDH1 is the main type found in normal leukocytes, while IMPDH2 predominates in tumors. Mutations in IMPDH1 are associated with the autosomal dominant retinitis pigmentosa type 10 (RP10), as well as the development of malignant tumors. Analysis of mutant IMPDH1 suggests that protein misfolding and aggregation leads to the severe phenotype rather than reduced IMPDH1 activity. Therefore, IMPDH1 may be a potential therapeutic target based upon a strategy combining simultaneous suppression of IMPDH1 transcripts with supplementation of GTP within retinal tissues.

REFERENCES

1. Gorskii, B.V., et al. 1977. Effect of immune lymphocytes on the postvaccinal cytosero logical reaction in foot-and-mouth disease. *Veterinariia* 5: 43-44.
2. Bowne, S.J., et al. 2002. Mutations in the inosine monophosphate dehydrogenase 1 gene (IMPDH1) cause the RP10 form of autosomal dominant retinitis pigmentosa. *Hum. Mol. Genet.* 11: 559-568.
3. Pankiewicz, K.W., et al. 2004. Cofactor mimics as selective inhibitors of NAD-dependent inosine monophosphate dehydrogenase (IMPDH)—the major therapeutic target. *Curr. Med. Chem.* 11: 887-900.
4. Wright, D.G., et al. 2004. Effects of the IMP-dehydrogenase inhibitor, Tiazofurin, in bcr-abl positive acute myelogenous leukemia. Part II. *In vitro* studies. *Leuk. Res.* 28: 1137-1143.
5. Aherne, A., et al. 2004. On the molecular pathology of neurodegeneration in IMPDH1-based retinitis pigmentosa. *Hum. Mol. Genet.* 13: 641-650.
6. SWISS-PROT/TrEMBL (P20839). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

SOURCE

IMPDH (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IMPDH 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-46149 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

IMPDH (N-17) is recommended for detection of IMPDH of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

IMPDH (N-17) is also recommended for detection of IMPDH in additional species, including bovine.

Suitable for use as control antibody for IMPDH siRNA (h): sc-45679, IMPDH siRNA (m): sc-45680, IMPDH shRNA Plasmid (h): sc-45679-SH, IMPDH shRNA Plasmid (m): sc-45680-SH, IMPDH shRNA (h) Lentiviral Particles: sc-45679-V and IMPDH shRNA (m) Lentiviral Particles: sc-45680-V.

Molecular Weight of IMPDH: 55 kDa.

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) 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.

RESEARCH USE

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



Try **IMPDH (F-6): sc-166551** or **IMPDH (D-3): sc-365171**, our highly recommended monoclonal alternatives to IMPDH (N-17).