

IMPDH (H-300): sc-50510

BACKGROUND

A member of the GMPT 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 an 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

- Gorskii, B.V., et al. 1977. Effect of immune lymphocytes on the postvaccinal cytoserological reaction in foot-and-mouth disease. *Veterinariia* 5: 43-44.
- 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.
- 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.
- 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.
- Aherne, A., et al. 2004. On the molecular pathology of neurodegeneration in IMPDH1-based retinitis pigmentosa. *Hum. Mol. Genet.* 13: 641-650.
- SWISS-PROT/TrEMBL (P20839). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: IMPDH1 (human) mapping to 7q32.1, IMPDH2 (human) mapping to 3p21.31; *Impdh1* (mouse) mapping to 6 A3.3, *Impdh2* (mouse) mapping to 9 F2.

SOURCE

IMPDH (H-300) is a rabbit polyclonal antibody raised against amino acids 215-514 mapping at the C-terminus of IMPDH1 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.

STORAGE

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

APPLICATIONS

IMPDH (H-300) is recommended for detection of IMPDH1 and IMPDH2 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).

IMPDH (H-300) is also recommended for detection of IMPDH1 and IMPDH2 in additional species, including equine, canine, bovine, porcine and avian.

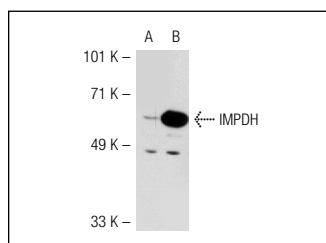
Molecular Weight of IMPDH: 55 kDa.

Positive Controls: IMPDH2 (h): 293T Lysate: sc-113577 or IMPDH2 (m2): 293T Lysate: sc-110295.

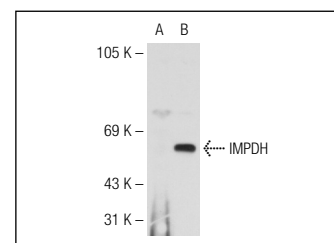
RECOMMENDED SECONDARY REAGENTS

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



IMPDH (H-300): sc-50510. Western blot analysis of IMPDH expression in non-transfected: sc-117752 (A) and human IMPDH transfected: sc-113577 (B) 293T whole cell lysates.



IMPDH (H-300): sc-50510. Western blot analysis of IMPDH2 expression in non-transfected: sc-117752 (A) and mouse IMPDH2 transfected: sc-110295 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **IMPDH (F-6): sc-166551** or **IMPDH (D-3): sc-365171**, our highly recommended monoclonal alternatives to IMPDH (H-300).