

ITPase (C-20): sc-87779

BACKGROUND

ITPase (inosine triphosphate pyrophosphatase) is also known as putative oncogene protein hlc14-06-p or ITPA (inosine triphosphatase (nucleoside triphosphate pyrophosphatase)) and is a 194 amino acid protein. ITPase is abundantly expressed in heart, liver, sex glands, thyroid and adrenal gland, and is localized to the cytoplasm in the cell. ITPase catalyzes the pyrophosphohydrolysis of both ITP (inosine triphosphate) and dITP (deoxyinosine triphosphate) to IMP (inosine monophosphate) and diphosphate. IMP can be used as a substrate for purine nucleotide pathways. IMP can be phosphorylated to ITP, and ITPase can regulate the concentration of ITP in the cell by converting ITP back to IMP. Defects in ITPase result in ITPase deficiency which is thought to be inherited and is characterized by an over-accumulation of ITP in erythrocytes, leukocytes and fibroblasts.

REFERENCES

1. Verhoef, V.L., et al. 1980. Individual variation of nucleoside triphosphate pyrophosphohydrolase activity in human erythrocytes, granulocytes, lymphocytes, and platelets. *Biochem. Genet.* 18: 235-245.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 147520. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Breen, D.P., et al. 2005. Pharmacogenetic association with adverse drug reactions to azathioprine immunosuppressive therapy following liver transplantation. *Liver Transpl.* 11: 826-833.
4. Savchenko, A., et al. 2007. Molecular basis of the antimutagenic activity of the house-cleaning inosine triphosphate pyrophosphatase RdgB from *Escherichia coli*. *J. Mol. Biol.* 374: 1091-1103.
5. Bierau, J., et al. 2007. Pharmacogenetic significance of inosine triphosphatase. *Pharmacogenomics* 8: 1221-1228.

CHROMOSOMAL LOCATION

Genetic locus: ITPA (human) mapping to 20p13; Itpa (mouse) mapping to 2 F1.

SOURCE

ITPase (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of ITPase 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-87779 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.

RESEARCH USE

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

APPLICATIONS

ITPase (C-20) is recommended for detection of ITPase 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).

ITPase (C-20) is also recommended for detection of ITPase in additional species, including equine, canine, bovine and porcine.

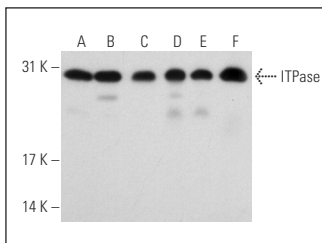
Suitable for use as control antibody for ITPase siRNA (h): sc-75348, ITPase siRNA (m): sc-146312, ITPase shRNA Plasmid (h): sc-75348-SH, ITPase shRNA Plasmid (m): sc-146312-SH, ITPase shRNA (h) Lentiviral Particles: sc-75348-V and ITPase shRNA (m) Lentiviral Particles: sc-146312-V.

Molecular Weight (predicted) of ITPase: 21 kDa.

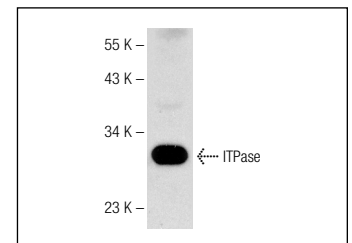
Molecular Weight (observed) of ITPase: 29 kDa.

Positive Controls HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or mouse brain extract: sc-2253.

DATA



ITPase (C-20): sc-87779. Western blot analysis of ITPase expression in HeLa (A), Jurkat (B), K-562 (C), HEL 92.1.7 (D) and MEG-01 (E) whole cell lysates and mouse brain tissue extract (F).



ITPase (C-20): sc-87779. Western blot analysis of ITPase expression in MCF7 whole cell lysate.

PROTOCOLS

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Try **ITPase (A-4): sc-514409**, our highly recommended monoclonal alternative to ITPase (C-20).