

ITPase (A-4): sc-514409

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.

SOURCE

ITPase (A-4) is a mouse monoclonal antibody raised against amino acids 1-194 representing full length ITPase of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ITPase (A-4) is available conjugated to agarose (sc-514409 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514409 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514409 PE), fluorescein (sc-514409 FITC), Alexa Fluor® 488 (sc-514409 AF488), Alexa Fluor® 546 (sc-514409 AF546), Alexa Fluor® 594 (sc-514409 AF594) or Alexa Fluor® 647 (sc-514409 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514409 AF680) or Alexa Fluor® 790 (sc-514409 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ITPase (A-4) is recommended for detection of ITPase of human origin by Western Blotting (starting dilution 1:100, 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).

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

Molecular Weight (predicted) of ITPase: 21 kDa.

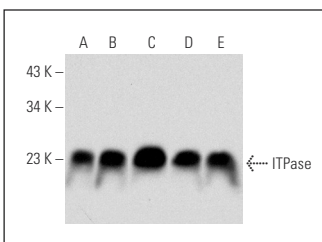
Molecular Weight (observed) of ITPase: 29 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

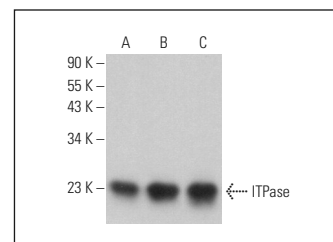
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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



ITPase (A-4): sc-514409. Western blot analysis of ITPase expression in MCF7 (A), HeLa (B), Hep G2 (C), Jurkat (D) and K-562 (E) whole cell lysates.



ITPase (A-4): sc-514409. Western blot analysis of ITPase expression in Hep G2 (A), K-562 (B) and HEL 92.1.7 (C) whole cell lysates.

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.

PROTOCOLS

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