

ACP1 (A-7): sc-390226

BACKGROUND

Regulation of intracellular concentrations of flavoenzymes and flavin coenzymes is essential for proper cell homeostasis. Red cell acid phosphatase, known as ACP1, catalyzes the transfer of phosphate from phosphate ester substrates to suitable acceptor alcohols such as methanol and glycerol. ACP is a genetically polymorphic, cytoplasmic low-molecular-weight flavin mononucleotide phosphatase that regulates the intracellular concentrations of flavin coenzymes. The human ACP1 gene maps to chromosome 2p25.3 and encodes a pair of isozymes, Bf (α) and Bs (β). The ACP1 α and β isozymes are not glycosylated. Both ACP1- α and ACP1- β isozymes are 157 amino acids in length; however the two forms differ in sequence over an internal 34 residue segment. The two isoforms are believed to differ in substrate specificity.

REFERENCES

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- Wo, Y.Y., McCormack, A.L., Shabanowitz, J., Hunt, D.F., Davis, J.P., Mitchell, G.L. and Van Etten, R.L. 1992. Sequencing, cloning, and expression of human red cell-type acid phosphatase, a cytoplasmic phosphotyrosyl protein phosphatase. *J. Biol. Chem.* 267: 10856-10865.
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- Lazaruk, K.D., Dissing, J. and Sensabaugh, G.F. 1993. Exon structure at the human ACP1 locus supports alternative splicing model for f and s isozyme generation. *Biochem. Biophys. Res. Commun.* 196: 440-446.
- Bryson, G.L., Massa, H., Trask, B.J. and Van Etten, R.L. 1995. Gene structure, sequence, and chromosomal localization of the human red cell-type low-molecular-weight acid phosphotyrosyl phosphatase gene, ACP1. *Genomics* 30: 133-140.
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CHROMOSOMAL LOCATION

Genetic locus: ACP1 (human) mapping to 2p25.3; Acp1 (mouse) mapping to 12 A2.

SOURCE

ACP1 (A-7) is a mouse monoclonal antibody raised against amino acids 8-156 mapping near the N-terminus of ACP1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ACP1 (A-7) is recommended for detection of ACP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 ACP1 siRNA (h): sc-108019, ACP1 siRNA (m): sc-44359, ACP1 shRNA Plasmid (h): sc-108019-SH, ACP1 shRNA Plasmid (m): sc-44359-SH, ACP1 shRNA (h) Lentiviral Particles: sc-108019-V and ACP1 shRNA (m) Lentiviral Particles: sc-44359-V.

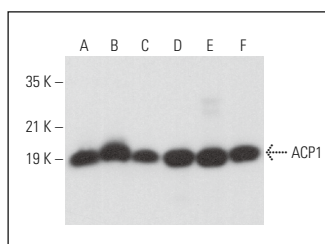
Molecular Weight of ACP1: 18 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or RAW 264.7 whole cell lysate: sc-2211.

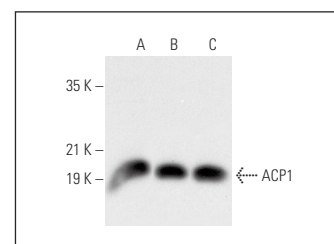
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



ACP1 (A-7): sc-390226. Western blot analysis of ACP1 expression in Hep G2 (A), Caki-1 (B), NTERA-2 cl.D1 (C), 3611-RF (D), SP2/0 (E) and c4 (F) whole cell lysates.



ACP1 (A-7): sc-390226. Western blot analysis of ACP1 expression in Hep G2 (A), HeLa (B) and RAW 264.7 (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.

PROTOCOLS

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