

ACP2 (4B5): sc-100344

BACKGROUND

ACP2 (acid phosphatase 2), also known as LAP (lysosomal acid phosphatase), is a 423 amino acid member of the histidine acid phosphatase family. Localized to the lysosomal compartment, ACP2 is comprised of two subunits, designated α and β , which function to hydrolyze orthophosphoric monoesters to alcohols and phosphates. ACP2 is expressed throughout the body and exerts optimal enzymatic activity when the lysosome is at an acidic pH. Defects in the gene encoding ACP2 are the cause of acid phosphatase deficiency, a condition characterized by terminal bleeding, opisthotonos, hypotonia, lethargy, intermittent vomiting and death in early infancy.

REFERENCES

- Pohlmann, R., et al. 1988. Human lysosomal acid phosphatase: cloning, expression and chromosomal assignment. *EMBO J.* 7: 2343-2350.
- Geier, C., et al. 1989. Structure of the human lysosomal acid phosphatase gene. *Eur. J. Biochem.* 183: 611-616.
- Whitelock, R.B., et al. 1997. Cathepsin G, acid phosphatase, and α 1-proteinase inhibitor messenger RNA levels in keratoconus corneas. *Invest. Ophthalmol. Vis. Sci.* 38: 529-534.
- Branco, M. and Ferrand, N. 1998. Genetic polymorphism of rabbit (*Oryctolagus cuniculus*) tissue acid phosphatases (ACP2 and ACP3). *Comp. Biochem. Physiol. B, Biochem. Mol. Biol.* 120: 405-409.

CHROMOSOMAL LOCATION

Genetic locus: ACP2 (human) mapping to 11p11.2.

SOURCE

ACP2 (4B5) is a mouse monoclonal antibody raised against recombinant ACP2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ACP2 (4B5) is recommended for detection of ACP2 of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 ACP2 siRNA (h): sc-96327, ACP2 shRNA Plasmid (h): sc-96327-SH and ACP2 shRNA (h) Lentiviral Particles: sc-96327-V.

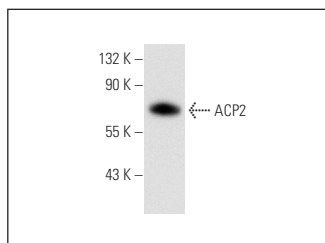
Molecular Weight of ACP2: 45-80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

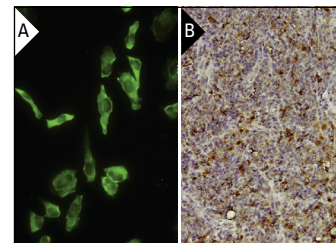
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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 λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG λ BP-HRP: sc-516132 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ACP2 (4B5): sc-100344. Western blot analysis of ACP2 expression in HeLa whole cell lysate.



ACP2 (4B5): sc-100344. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymphoma tissue showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Bailey, K., et al. 2013. Spatial and temporal expression of lysosomal acid phosphatase 2 (ACP2) reveals dynamic patterning of the mouse cerebellar cortex. *Cerebellum* 12: 870-881.
- Bailey, K., et al. 2014. Purkinje cell compartmentation in the cerebellum of the lysosomal Acid Phosphatase 2 mutant mouse (nax-naked-ataxia mutant mouse). *PLoS ONE* 9: e94327.
- de Pizzol Júnior, J.P., et al. 2018. Matrix metalloproteinase-1 and Acid Phosphatase in the degradation of the lamina propria of eruptive pathway of rat molars. *Cells* 7 pii: E206.

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.