

# ACYP1 (K-13): sc-160129

## BACKGROUND

Acylphosphatase is a cytosolic enzyme that catalyzes the hydrolysis of the carboxyl-phosphate bond of acylphosphates. Two acylphosphatase isoenzymes exist: ACYP1, also known as erythrocyte acylphosphatase, and ACYP2, also known as muscle acylphosphatase. The two isoenzymes share 60% homology and have the same substrate specificity, although ACYP1 has higher catalytic activity than ACYP2. ACYP2 has emerged as a significant model system to study protein misfolding and aggregation. It is particularly suitable for these studies because ACYP2 is a small, simple protein of only 98 amino acids consisting of a five-stranded antiparallel  $\beta$ -sheet and two parallel  $\alpha$ -helices. Mutations in ACYP2 between residues 16-31 and 87-98, which includes its phosphate binding site at Arg-23, significantly increase the rate of aggregation. These mutations correlate with changes in the hydrophobicity of ACYP2 and a conversion of the  $\alpha$ -helical structures to  $\beta$ -sheets. Therefore, a reduction in the net charge of a protein may be a key determinant in some forms of protein deposition diseases.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: ACYP1 (human) mapping to 14q24.3; Acyp1 (mouse) mapping to 12 D2.

## SOURCE

ACYP1 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACYP1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160129 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ACYP1 (K-13) is recommended for detection of ACYP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with ACYP2.

ACYP1 (K-13) is also recommended for detection of ACYP1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for ACYP1 siRNA (h): sc-92173, ACYP1 siRNA (m): sc-140850, ACYP1 shRNA Plasmid (h): sc-92173-SH, ACYP1 shRNA Plasmid (m): sc-140850-SH, ACYP1 shRNA (h) Lentiviral Particles: sc-92173-V and ACYP1 shRNA (m) Lentiviral Particles: sc-140850-V.

Molecular Weight of ACYP1: 11 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **ACYP1 (2-RE16): sc-134246**, our highly recommended monoclonal alternative to ACYP1 (K-13).