

# Aminopeptidase P1 (K-17): sc-109032

## BACKGROUND

Aminopeptidases comprise a family of enzymatic proteins that are widely distributed in both eukaryotes and prokaryotes and function to catalyze the removal of amino acids from the N-termini of proteins. Aminopeptidase P1 is proline-specific; it cleaves the N-terminal amino acid where the second residue is proline. It is a mammalian bradykinin-degrading, metal-dependant enzyme that exists in two forms: a membrane-bound form and a cytosolic form. Aminopeptidase P1 is GPI-linked and the membrane-bound form is expressed in all tissues with highest expression in pancreas. Aminopeptidase P1 has been shown to be a receptor for the breast-homing peptide and may therefore be a potential therapeutic target for the treatment and prevention of breast cancer.

## REFERENCES

1. Wilk, S., et al. 1998. Purification, characterization and cloning of a cytosolic aspartyl aminopeptidase. *J. Biol. Chem.* 273: 15961-15970.
2. Cottrell, G.S., et al. 2000. Cloning, expression and characterization of human cytosolic Aminopeptidase P: a single manganese(II)-dependent enzyme. *Biochemistry* 39: 15121-15128.
3. Essler, M., et al. 2002. Molecular specialization of breast vasculature: a breast-homing phage-displayed peptide binds to Aminopeptidase P in breast vasculature. *Proc. Natl. Acad. Sci. USA* 99: 2252-2257.
4. Graham, S.C., et al. 2006. Kinetic and crystallographic analysis of mutant *Escherichia coli* Aminopeptidase P: insights into substrate recognition and the mechanism of catalysis. *Biochemistry* 45: 964-975.
5. Jao, S.C., et al. 2006. Tyrosine 387 and Arginine 404 are critical in the hydrolytic mechanism of *Escherichia coli* Aminopeptidase P. *Biochemistry* 45: 1547-1553.
6. Kiraly, O., et al. 2006. Expression of human cationic trypsinogen with an authentic N-terminus using intein-mediated splicing in Aminopeptidase P deficient *Escherichia coli*. *Protein Expr. Purif.* 48: 104-111.

## CHROMOSOMAL LOCATION

Genetic locus: XPNPEP1 (human) mapping to 10q25.1; Xpnpep1 (mouse) mapping to 19 D2.

## SOURCE

Aminopeptidase P1 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Aminopeptidase P1 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-109032 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Aminopeptidase P1 (K-17) is recommended for detection of Aminopeptidase P1 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).

Aminopeptidase P1 (K-17) is also recommended for detection of Aminopeptidase P1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Aminopeptidase P1 siRNA (h): sc-90608, Aminopeptidase P1 siRNA (m): sc-141046, Aminopeptidase P1 shRNA Plasmid (h): sc-90608-SH, Aminopeptidase P1 shRNA Plasmid (m): sc-141046-SH, Aminopeptidase P1 shRNA (h) Lentiviral Particles: sc-90608-V and Aminopeptidase P1 shRNA (m) Lentiviral Particles: sc-141046-V.

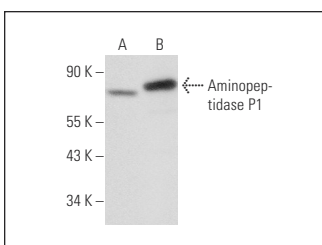
Molecular Weight of Aminopeptidase P1: 70/67 kDa.

Positive Controls: mouse pancreas extract: sc-364244 or NIH/3T3 whole cell lysate: sc-2210.

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

## DATA



Aminopeptidase P1 (K-17): sc-109032. Western blot analysis of Aminopeptidase P1 expression in mouse pancreas tissue extract (A) and NIH/3T3 whole cell lysate (B).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.