SANTA CRUZ BIOTECHNOLOGY, INC.

Aminopeptidase A (W-20): sc-23807

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Aminopeptidase A, also designated APA, gp160 human kidney differentiation antigen, glutamyl aminopeptidase, or enpep, is a differentiation-related kidney glycoprotein. As a cell surface, zinc-dependent metalloprotease, aminopeptidase A specifically cleaves amino-terminal acidic residues from peptide substrates such as angiotensin II. APA is expressed on the surface of epithelial cells of the glomerulus and proximal tubule cells of the human nephron where it may mediate the constitutive trafficking of GLUT4-containing vesicles. These GLUT4-containing vesicles are tissue-specific secretory-like microsomal structures that mediate insulin-dependent translocation of GLUT4 to the cell surface in fat and muscle cells. Mutations in the gp160/APA gene, including loss of protein expression or enzymatic activity occur in 20% of primary clear cell renal carcinomas.

REFERENCES

1. Nanus, D.M., et al. 1993. Molecular cloning of the human kidney differentiation antigen gp160: human aminopeptidase A. Proc. Natl. Acad. Sci. USA 90: 7069-7073.
2. Kandror, K.V., et al. 1994. The major protein of GLUT4-containing vesicles, gp160, has aminopeptidase activity. J. Biol. Chem. 269: 30777-3080.
3. Online Mendelian Inheritance in Man, OMIM™. 1997. Johns Hopkins University, Baltimore, MD. MIM Number: 138297. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Filippis, A., et al. 1998. Possible role for gp160 in constitutive but not insulin-stimulated GLUT4 trafficking: dissociation of gp160 and GLUT4 localization. Biochem. J. 330: 405-411.
5. Nanus, D.M., et al. 1998. Aminopeptidase A expression and enzymatic activity in primary human renal cancers. Int. J. Oncol. 13: 261-267.
6. Fujimura, H., et al. 2000. Amino-peptidase A expression in cervical neoplasia and its relationship to neoplastic transformation and progression. Oncology 58: 342-352.

CHROMOSOMAL LOCATION

Genetic locus: ENPEP (human) mapping to 4q25; Enpep (mouse) mapping to 3 G3.

SOURCE

Aminopeptidase A (W-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Aminopeptidase A 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-23807 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 A (W-20) is recommended for detection of Aminopeptidase A 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), 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 Aminopeptidase A siRNA (h): sc-41548, Aminopeptidase A siRNA (m): sc-41549, Aminopeptidase A shRNA Plasmid (h): sc-41548-SH, Aminopeptidase A shRNA Plasmid (m): sc-41549-SH, Aminopeptidase A shRNA (h) Lentiviral Particles: sc-41548-V and Aminopeptidase A shRNA (m) Lentiviral Particles: sc-41549-V.

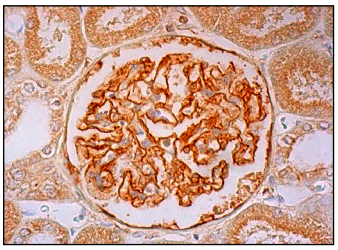
Molecular Weight of Aminopeptidase A: 160 kDa.

Positive Controls: JAR cell lysate: sc-2276.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Aminopeptidase A (W-20): sc-23807. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in glomeruli and cytoplasmic staining of cells in tubules.

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 or our catalog for detailed protocols and support products.