

Aminopeptidase A (N-20): sc-18065

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: 30777-30780.
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.

CHROMOSOMAL LOCATION

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

SOURCE

Aminopeptidase A (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus 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-18065 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Aminopeptidase A (N-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), 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), 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).

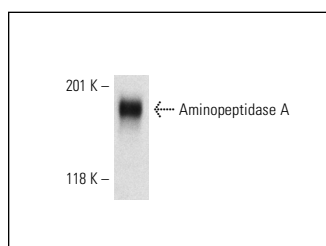
Aminopeptidase A (N-20) is also recommended for detection of Aminopeptidase A in additional species, including equine.

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.

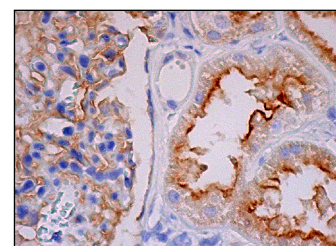
Molecular Weight of Aminopeptidase A: 160 kDa.

Positive Controls: JAR cell lysate: sc-2276.

DATA



Aminopeptidase A (N-20): sc-18065. Western blot analysis of Aminopeptidase A expression in JAR whole cell lysate.



Aminopeptidase A (N-20): sc-18065. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in glomeruli and tubules.

SELECT PRODUCT CITATIONS

1. Bussolati, B., et al. 2005. Isolation of renal progenitor cells from adult human kidney. *Am. J. Pathol.* 166: 545-555.
2. Merrick, B.A., et al. 2006. Alterations in the rat serum proteome during liver injury from acetaminophen exposure. *J. Pharmacol. Exp. Ther.* 318: 792-802.
3. Xiao, Z., et al. 2007. Analysis of the extracellular matrix vesicle proteome in mineralizing osteoblasts. *J. Cell. Physiol.* 210: 325-335.
4. Babusiak, M., et al. 2007. Native proteomic analysis of protein complexes in murine intestinal brush border membranes. *Proteomics* 7: 121-129.

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Try **Aminopeptidase A (FG35.4): sc-52444**, our highly recommended monoclonal alternative to Aminopeptidase A (N-20).