10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

LNPEP Antibody
Catalog # ASC11556

Specification

LNPEP Antibody - Product Information

Application	**WB, IF**
Primary Accession	Q9UIQ6
Other Accession	NP_005566, 61742777
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**113 kDa KDa**
Application Notes	**LNPEP antibody can be used for detection of LNPEP by Western blot at 1 µg/mL. For immunofluorescence start at 20 µg/mL.**

LNPEP Antibody - Additional Information

Gene ID **4012**

Target/Specificity
LNPEP; At least three isoforms are known to exist; this antibody will detect all three isoforms. Despite its predicted molecular weight, LNPEP often migrates at 165kD in SDS-PAGE.

Reconstitution & Storage
LNPEP antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
LNPEP Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

LNPEP Antibody - Protein Information

Name LNPEP

Synonyms OTASE

Function
Release of an N-terminal amino acid, cleaves before cysteine, leucine as well as other amino acids. Degrades peptide hormones such as oxytocin, vasopressin and angiotensin III, and plays a role in maintaining homeostasis during pregnancy. May be involved in the inactivation of neuronal peptides in the brain. Cleaves Met-enkephalin and dynorphin. Binds angiotensin IV and may be the angiotensin IV receptor in the brain.

Cellular Location
Cell membrane; Single-pass type II membrane protein Note=In brain only the membrane-bound form is found. The protein resides in intracellular vesicles together with GLUT4 and can then

translocate to the cell surface in response to insulin and/or oxytocin Localization may be determined by dileucine internalization motifs, and/or by interaction with tankyrases

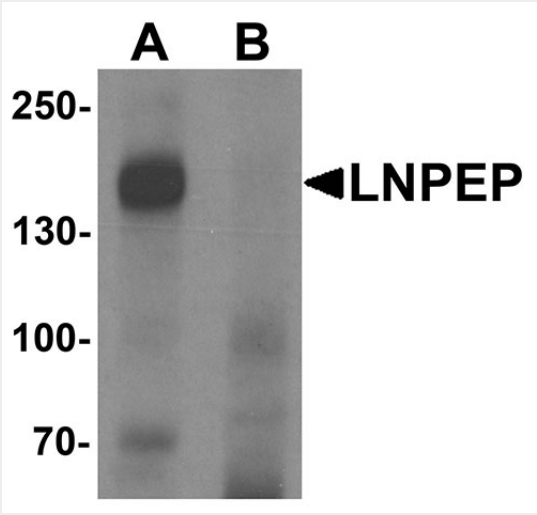
Tissue Location
Highly expressed in placenta, heart, kidney and small intestine. Detected at lower levels in neuronal cells in the brain, in skeletal muscle, spleen, liver, testes and colon

LNPEP Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

LNPEP Antibody - Images



Western blot analysis of LNPEP in human lung tissue lysate with LNPEP antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.

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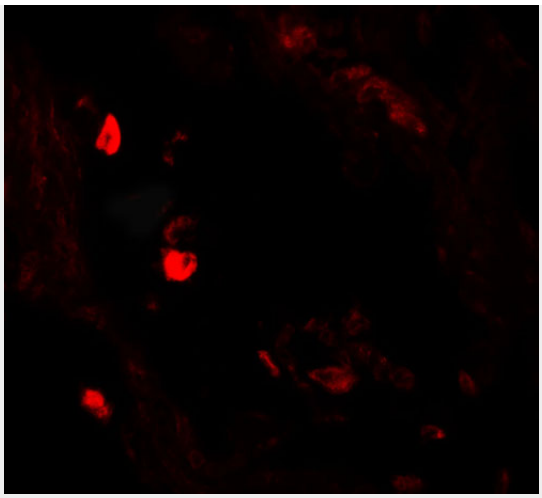

Immunofluorescence of LNPEP in human lung tissue with LNPEP antibody at 20 µg/mL.

LNPEP Antibody - Background

LNPEP Antibody: LNPEP, also known as insulin-responsive aminopeptidase (IRAP), was initially identified as an abundant protein that is associated with specialized endosomes termed GLUT4 storage vesicles (GSVs) in adipocytes. The luminal domain of LNPEP contains an aminopeptidase activity that is involved in peptide hormone processing and antigenic peptide processing. LNPEP is also a key regulator of GLUT4 trafficking by controlling the sorting of GLUT4 from endosomes to the GSVs.

LNPEP Antibody - References

Keller SR, Scott HM, Mastick CC, et al. Cloning and characterization of a novel insulin-regulated membrane aminopeptidase from Glut4 vesicles. J. Biol. Chem. 1995; 270:23612-8.
Wallis MG, Lankford MF, and Keller SR. Vasopressin is a physiological substrate for the insulin-regulated aminopeptidase IRAP. Am. J. Physiol. Endocrinol. Metab. 2007; 293:E1092-102.
Saveanu L, Carroll O, Weimershaus M, et al. IRAP identifies an endosomal compartment required for MHC class I cross-presentation. Science 2009; 325:213-7.
Jordens I, Molle D, Xiong W, et al. Insulin-regulated aminopeptidase is a key regulator of GLUT4 trafficking by controlling the sorting of GLUT4 from endosomes to specialized insulin-regulated vesicles. Mol. Biol. Cell 2010; 21:2034-44.