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Goat Anti-Insulysin / Insulinase Antibody
Peptide-affinity purified goat antibody
Catalog # AF1567a

Specification

Goat Anti-Insulysin / Insulinase Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P14735
Other Accession	NP_004960, 3416
Reactivity	**Human**
Predicted	**Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**117968**

Goat Anti-Insulysin / Insulinase Antibody - Additional Information

Gene ID 3416

Other Names
Insulin-degrading enzyme, 3.4.24.56, Abeta-degrading protease, Insulin protease, Insulinase, Insulysin, IDE

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-Insulysin / Insulinase Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-Insulysin / Insulinase Antibody - Protein Information

Name IDE {ECO:0000303|PubMed:20364150, ECO:0000312|HGNC:HGNC:5381}

Function
Plays a role in the cellular breakdown of insulin, APP peptides, IAPP peptides, natriuretic peptides, glucagon, bradykinin, kallidin, and other peptides, and thereby plays a role in intercellular peptide signaling (PubMed:10684867, PubMed:17051221, PubMed:<a href="http://www.uniprot.org/citations/17613531"

target="_blank">17613531, PubMed:18986166, PubMed:19321446, PubMed:21098034, PubMed:2293021, PubMed:23922390, PubMed:24847884, PubMed:26394692, PubMed:26968463, PubMed:29596046). Substrate binding induces important conformation changes, making it possible to bind and degrade larger substrates, such as insulin (PubMed:23922390, PubMed:26394692, PubMed:29596046). Contributes to the regulation of peptide hormone signaling cascades and regulation of blood glucose homeostasis via its role in the degradation of insulin, glucagon and IAPP (By similarity). Plays a role in the degradation and clearance of APP-derived amyloidogenic peptides that are secreted by neurons and microglia (Probable) (PubMed:26394692, PubMed:9830016). Degrades the natriuretic peptides ANP, BNP and CNP, inactivating their ability to raise intracellular cGMP (PubMed:21098034). Also degrades an aberrant frameshifted 40-residue form of NPPA (fsNPPA) which is associated with familial atrial fibrillation in heterozygous patients (PubMed:21098034). Involved in antigen processing. Produces both the N terminus and the C terminus of MAGEA3-derived antigenic peptide (EVDPIGHLY) that is presented to cytotoxic T lymphocytes by MHC class I.

Cellular Location
Cytoplasm, cytosol. Cell membrane {ECO:0000250|UniProtKB:P35559}. Secreted Note=Present at the cell surface of neuron cells. The membrane- associated isoform is approximately 5 kDa larger than the known cytosolic isoform

Tissue Location
Detected in brain and in cerebrospinal fluid (at protein level).

Goat Anti-Insulysin / Insulinase 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

Goat Anti-Insulysin / Insulinase Antibody - Images

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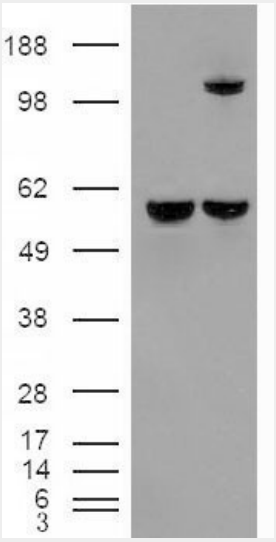
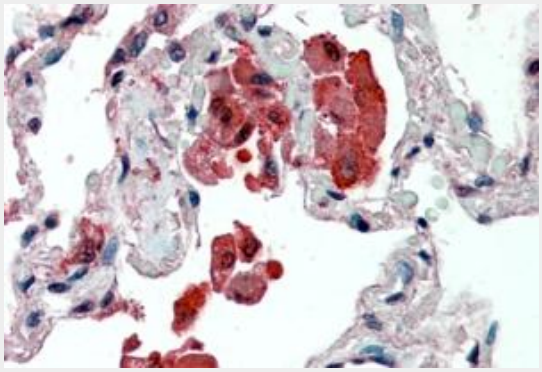
AF1567a (0.1 µg/ml) staining of K562 cell lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



HEK293 overexpressing Insulysin (RC220700) and probed with AF1567a (mock transfection in first lane), tested by Origene.



AF1567a (2.5 µg/ml) staining of paraffin embedded Human Lung. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

Goat Anti-Insulysin / Insulinase Antibody - Background

This gene encodes a zinc metallopeptidase that degrades intracellular insulin, and thereby terminates insulins activity, as well as participating in intercellular peptide signalling by degrading diverse peptides such as glucagon, amylin, bradykinin, and kallidin. The preferential affinity of this enzyme for insulin results in insulin-mediated inhibition of the degradation of other peptides such as

beta-amyloid. Deficiencies in this protein's function are associated with Alzheimer's disease and type 2 diabetes mellitus but mutations in this gene have not been shown to be causitive for these diseases. This protein localizes primarily to the cytoplasm but in some cell types localizes to the extracellular space, cell membrane, peroxisome, and mitochondrion. Alternative splicing results in multiple transcript variants encoding distinct isoforms. Additional transcript variants have been described but have not been experimentally verified.

Goat Anti-Insulysin / Insulinase Antibody - References

Association between variants in IDE-KIF11-HHEX and plasma amyloid beta levels. Reitz C, et al. Neurobiol Aging, 2010 Aug 17. PMID 20724036.
Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
Type 2 diabetes risk alleles near ADCY5, CDKAL1 and HHEX-IDE are associated with reduced birthweight. Andersson EA, et al. Diabetologia, 2010 Sep. PMID 20490451.
BMI at age 8 years is influenced by the type 2 diabetes susceptibility genes HHEX-IDE and CDKAL1. Winkler C, et al. Diabetes, 2010 Aug. PMID 20460429.
Combining genetic markers and clinical risk factors improves the risk assessment of impaired glucose metabolism. Ruchat SM, et al. Ann Med, 2010 Apr. PMID 20384434.