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IDE Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1455c

Product Information

Application	WB, IHC-P, E
Primary Accession	P14735
Other Accession	P35559, Q9JHR7, Q24K02
Reactivity	Human, Rat, Mouse
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	117968
Antigen Region	406-435

Additional Information

Gene ID	3416
Other Names	Insulin-degrading enzyme, Abeta-degrading protease, Insulin protease, Insulinase, Insulysin, IDE
Target/Specificity	This IDE antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 406-435 amino acids from the Central region of human IDE.
Dilution	WB~~1:2000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	IDE Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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: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).

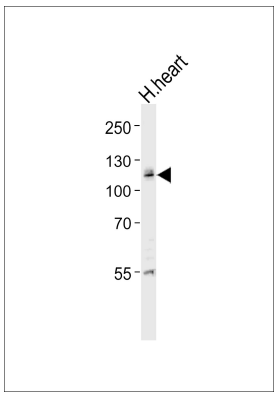
Background

IDE belongs to a protease family responsible for intercellular peptide signalling. Though its role in the cellular processing of insulin has not yet been defined, insulin-degrading enzyme is thought to be involved in the termination of the insulin response.

References

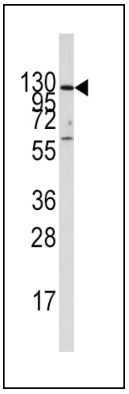
Vepsalainen,S.,J. Med. Genet. 44 (9), 606-608 (2007)
Kim,M.,J. Biol. Chem. 282 (11), 7825-7832 (2007)
Radulescu,R.T.,Int. J. Oncol. 30 (1), 73-80 (2007)
Li,Q.,Cell 127 (2), 305-316 (2006)

Images

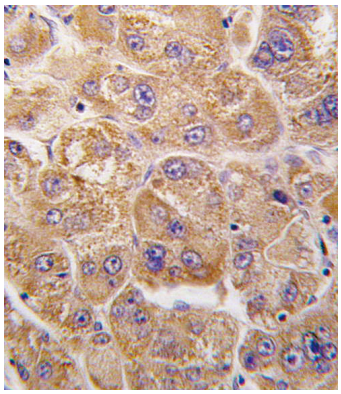


Western blot analysis of lysate from K562 cell line, using IDE Antibody (Center)(Cat. #AP1455c). AP1455c was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug.

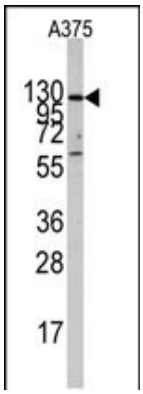
Western blot analysis of anti-IDE Antibody (Center) (Cat.#AP1455c) in A375 cell line lysates (35ug/lane). IDE



(arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with IDE antibody (Center)(Cat.#AP1455c), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Western blot analysis of lysate from K562 cell line, using IDE Antibody (Center)(Cat. #AP1455c). AP1455c was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug.

Citations

- Complex formation between metabolic enzymes in tumor cells: unfolding the MDR1-IDE paradigm.
- Promoting scientific standards in Germany.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.