abcam

Product datasheet

Anti-ApoER2 antibody [EPR3326] ab108208

KO VALIDATED Recombinant RabMAb

★★★★★ 1 Abreviews 21 References 5 Images

Overview

Product name	Anti-ApoER2 antibody [EPR3326]
Description	Rabbit monoclonal [EPR3326] to ApoER2
Host species	Rabbit
Tested applications	**Suitable for:** WB, IP **Unsuitable for:** ICC/IF or IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	SH-SY5Y, C6, Neuro-2a, Human fetal brain, Mouse brain, and Rat brain lysates,
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 0.05% BSA, 59% PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR3326
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab108208 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★★ **(1)**	1/1000 - 1/10000. Predicted molecular weight: 106 kDa.
IP		1/10 - 1/100.

Application notes Is unsuitable for ICC/IF or IHC-P.

Target

Function Cell surface receptor for Reelin (RELN) and apolipoprotein E (apoE)-containing ligands. LRP8 participates in transmitting the extracellular Reelin signal to intracellular signaling processes, by binding to DAB1 on its cytoplasmic tail. Reelin acts via both the VLDL receptor (VLDLR) and LRP8 to regulate DAB1 tyrosine phosphorylation and microtubule function in neurons. LRP8 has higher affinity for Reelin than VLDLR. LRP8 is thus a key component of the Reelin pathway which governs neuronal layering of the forebrain during embryonic brain development. Binds the endoplasmic reticulum resident receptor-associated protein (RAP). Binds dimers of beta 2-glycoprotein I and may be involved in the suppression of platelet aggregation in the vasculature. Highly expressed in the initial segment of the epididymis, where it affects the functional expression of clusterin and phospholipid hydroperoxide glutathione peroxidase (PHGPx), two proteins required for sperm maturation. May also function as an endocytic receptor.

Tissue specificity Expressed mainly in brain and placenta. Also expressed in platelets and megakaryocytic cells. Not expressed in the liver.

Involvement in disease Defects in LRP8 are a cause of myocardial infarction type 1 (MCI1) [MIM:608446]. A condition defined by the irreversible necrosis of heart muscle secondary to prolonged ischemia.

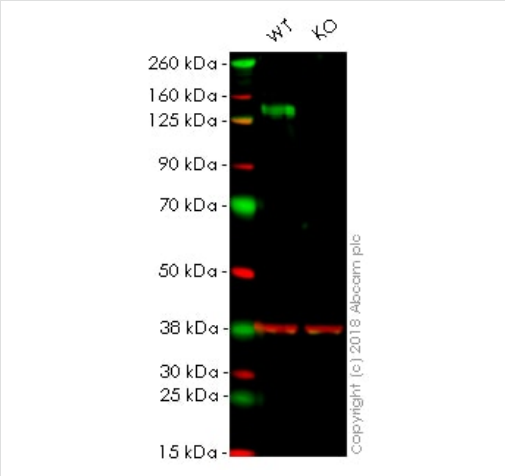
Sequence similarities Belongs to the LDLR family.
Contains 2 EGF-like domains.
Contains 7 LDL-receptor class A domains.
Contains 5 LDL-receptor class B repeats.

Domain The cytoplasmic domain is involved in the binding of DAB1 and in the recruitment of JNK-interacting proteins. Isoforms, which lack part of the cytoplasmic domain, are unable to recruit members of the family of JNK interacting proteins (JIP) to the cytoplasmic tail.

Post-translational modifications O-glycosylated. Some alternatively spliced isoforms lack the O-linked sugar domain.
Undergoes sequential, furin and gamma-secretase dependent, proteolytic processing, resulting in the extracellular release of the entire ligand-binding domain as a soluble polypeptide and in the intracellular domain (ICD) release into the cytoplasm. The gamma-secretase-dependent proteolytical processing occurs after the bulk of the extracellular domain has been shed, in a furin-dependent manner, in alternatively spliced isoforms carrying the furin cleavage site.
Hypoglycosylation (mainly hypo-O-glycosylation) leads to increased extracellular cleavage, which in turn results in accelerating release of the intracellular domain (ICD) by the gamma-secretase. The resulting receptor fragment is able to inhibit Reelin signaling and in particular the Reelin-induced DAB1 phosphorylation.
Tyrosine phosphorylated upon apoE binding.

	Ubiquitinated by MYLIP leading to degradation.
Cellular localization	Cell membrane. Secreted. Isoforms that contain the exon coding for a furin-type cleavage site are proteolytically processed, leading to a secreted receptor fragment.

Images



Western blot - Anti-ApoER2 antibody [EPR3326] (ab108208)

All lanes : Anti-ApoER2 antibody [EPR3326] (ab108208) at 1/1000 dilution

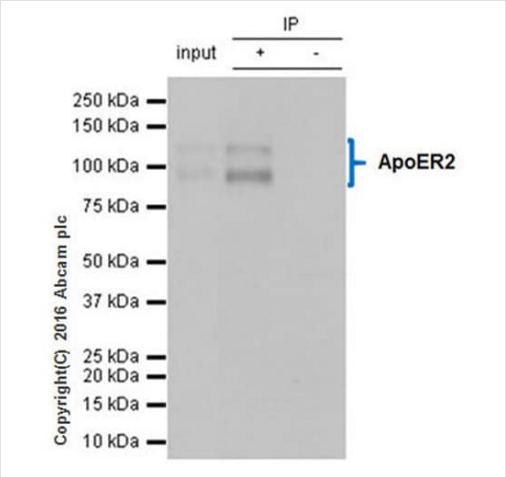
Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : ApoER2 knockout HAP1 whole cell lysate

Lysates/proteins at 40 µg per lane.

Predicted band size: 106 kDa

Lanes 1 - 2: Merged signal (red and green). Green - ab108208 observed at 106 kDa. Red - loading control, **ab9484**, observed at 37 kDa.

ab108208 was shown to specifically react with ApoER2 in wild-type HAP1 cells as signal was lost in LRP8 knockout cells. Wild-type and ApoER2 knockout samples were subjected to SDS-PAGE. Ab108208 and **ab9484** (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



Immunoprecipitation - Anti-ApoER2 antibody [EPR3326] (ab108208)

ab108208 (purified) at 1/40 immunoprecipitating ApoER2 in SH-SY5Y (human neuroblastoma) whole cell lysate.

Lane 1 (input): SH-SY5Y whole cell lysate 10ug

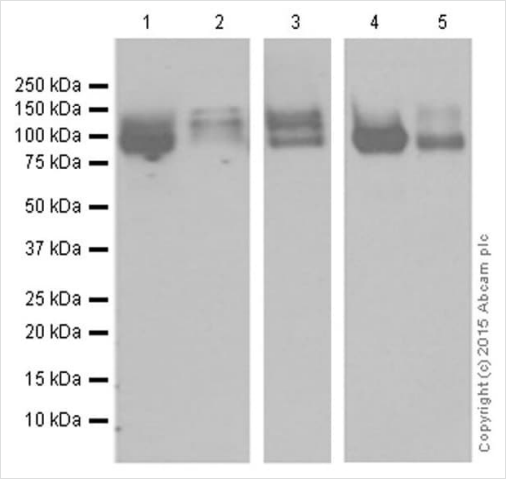
Lane 2 (+): ab108208 + SH-SY5Y whole cell lysate

Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of ab108208 in SH-SY5Y whole cell lysate

For western blotting, VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/10,000 dilution.

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.



Western blot - Anti-ApoER2 antibody [EPR3326] (ab108208)

All lanes : Anti-ApoER2 antibody [EPR3326] (ab108208) at 1/10000 dilution (purified)

Lane 1 : SH-SY5Y (human neuroblastoma) whole cell lysate
Lane 2 : Human fetal brain tissue lysate
Lane 3 : Mouse brain tissue lysate
Lane 4 : C6 (rat glioma) whole cell lysate
Lane 5 : Neuro-2a (mouse neuroblastoma) whole cell lysate

Lysates/proteins at 20 µg per lane.

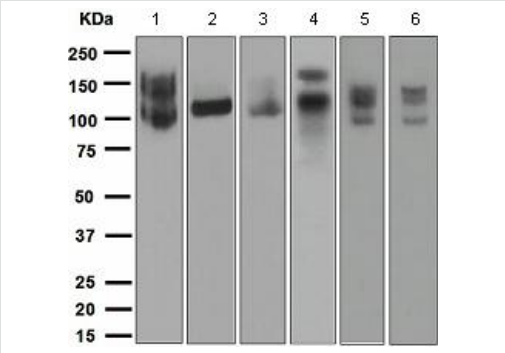
Secondary
All lanes : Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 106 kDa
Observed band size: 130-170 kDa

Blocking and diluting buffer 5% NFDM/TBST.

130kDa: Immature form;

170kDa: Glycosylated mature form. (PMID:24344333, 24532792, 24705369 and 25233900)



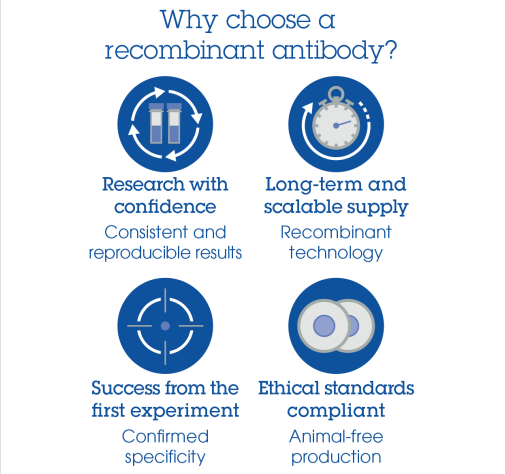
Western blot - Anti-ApoER2 antibody [EPR3326] (ab108208)

All lanes : Anti-ApoER2 antibody [EPR3326] (ab108208) at 1/1000 dilution (unpurified)

Lane 1 : SH-SY5Y cell lysate
Lane 2 : C6 cell lysate
Lane 3 : Neuro-2a cell lysate
Lane 4 : Human Fetal Brain cell lysate
Lane 5 : Mouse Fetal Brain cell lysate
Lane 6 : Rat Fetal Brain cell lysate

Lysates/proteins at 10 µg per lane.

Predicted band size: 106 kDa



Anti-ApoER2 antibody [EPR3326] (ab108208)

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