10320 Camino Santa Fe, Suite G
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AGER / RAGE Antibody
Rabbit Polyclonal Antibody
Catalog # ALS17152

Specification

AGER / RAGE Antibody - Product Information

Application	**IHC-P, WB**
Primary Accession	Q15109
Other Accession	177
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**42803**

AGER / RAGE Antibody - Additional Information

Gene ID 177

Other Names
AGER, RAGE, RAGE isoform NtRAGE-delta, RAGE isoform sRAGE-delta

Target/Specificity
Human AGER / RAGE

Reconstitution & Storage
PBS, pH 7.4, 0.03% Proclin 300, 50% glycerol. Aliquot and store at -20°C or -80°C. Avoid freeze-thaw cycles.

Precautions
AGER / RAGE Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

AGER / RAGE Antibody - Protein Information

Name AGER

Synonyms RAGE

Function
Cell surface pattern recognition receptor that senses endogenous stress signals with a broad ligand repertoire including advanced glycation end products, S100 proteins, high-mobility group box 1 protein/HMGB1, amyloid beta/APP oligomers, nucleic acids, phospholipids and glycosaminoglycans (PubMed:27572515, PubMed:28515150, PubMed:34743181). Advanced glycosylation end products are nonenzymatically glycosylated proteins which accumulate in vascular tissue in aging and at an accelerated rate in

diabetes (PubMed:21565706). These ligands accumulate at inflammatory sites during the pathogenesis of various diseases, including diabetes, vascular complications, neurodegenerative disorders, and cancers and RAGE transduces their binding into pro-inflammatory responses. Upon ligand binding, uses TIRAP and MYD88 as adapters to transduce the signal ultimately leading to the induction or inflammatory cytokines IL6, IL8 and TNFalpha through activation of NF-kappa-B (PubMed:21829704, PubMed:33436632). Interaction with S100A12 on endothelium, mononuclear phagocytes, and lymphocytes triggers cellular activation, with generation of key pro-inflammatory mediators (PubMed:19386136). Interaction with S100B after myocardial infarction may play a role in myocyte apoptosis by activating ERK1/2 and p53/TP53 signaling (By similarity). Contributes to the translocation of amyloid- beta peptide (ABPP) across the cell membrane from the extracellular to the intracellular space in cortical neurons (PubMed:19906677). ABPP- initiated RAGE signaling, especially stimulation of p38 mitogen- activated protein kinase (MAPK), has the capacity to drive a transport system delivering ABPP as a complex with RAGE to the intraneuronal space. Participates in endothelial albumin transcytosis together with HMGB1 through the RAGE/SRC/Caveolin-1 pathway, leading to endothelial hyperpermeability (PubMed:27572515). Mediates the loading of HMGB1 in extracellular vesicles (EVs) that shuttle HMGB1 to hepatocytes by transferrin-mediated endocytosis and subsequently promote hepatocyte pyroptosis by activating the NLRP3 inflammasome (PubMed:34743181). Promotes also extracellular hypomethylated DNA (CpG DNA) uptake by cells via the endosomal route to activate inflammatory responses (PubMed:24081950, PubMed:28515150).

Cellular Location
[Isoform 1]: Cell membrane; Single-pass type I membrane protein [Isoform 10]: Cell membrane; Single-pass type I membrane protein

Tissue Location
Endothelial cells.

AGER / RAGE 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

AGER / RAGE Antibody - Images

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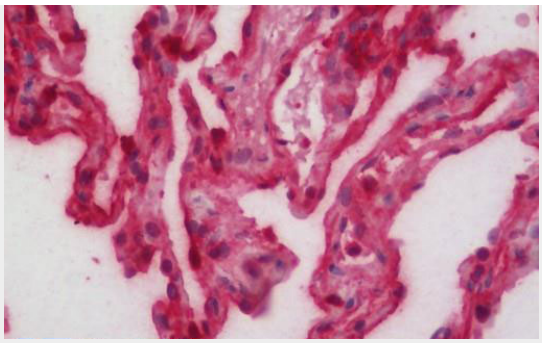
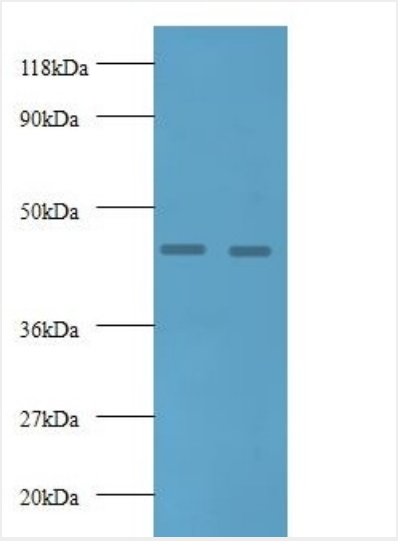


Human Lung: Formalin-Fixed, Paraffin-Embedded (FFPE)



Western blot of Advanced glycosylation end product-specific receptor antibody at 2 ug/ml.

AGER / RAGE Antibody - Background

Mediates interactions of advanced glycosylation end products (AGE). These are nonenzymatically glycosylated proteins which accumulate in vascular tissue in aging and at an accelerated rate in diabetes. Acts as a mediator of both acute and chronic vascular inflammation in conditions such as atherosclerosis and in particular as a complication of diabetes. AGE/RAGE signaling plays an important role in regulating the production/expression of TNF- alpha, oxidative stress, and endothelial dysfunction in type 2 diabetes. Interaction with S100A12 on endothelium, mononuclear phagocytes, and lymphocytes triggers cellular activation, with generation of key proinflammatory mediators. Interaction with S100B after myocardial infarction may play a role in myocyte apoptosis by activating ERK1/2 and p53/TP53 signaling (By similarity). Receptor for amyloid beta peptide. Contributes to the translocation of amyloid-beta peptide (ABPP) across the cell membrane from the extracellular to the intracellular space in cortical neurons. ABPP-initiated RAGE signaling, especially stimulation of p38 mitogen-activated protein kinase (MAPK), has the capacity to drive a transport system delivering ABPP as a complex with RAGE to the intraneuronal space. Can also bind oligonucleotides.

AGER / RAGE Antibody - References

Neeper M.,et al.J. Biol. Chem. 267:14998-15004(1992).
Sugaya K.,et al.Genomics 23:408-419(1994).
Abedin M.J.,et al.Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
Malherbe P.,et al.Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
Yonekura H.,et al.Biochem. J. 370:1097-1109(2003).

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