

Animal-Free AGER Protein, Human (His)

Cat. No.:	HY-P700146AF
Synonyms:	Advanced glycosylation end product-specific receptor; Ager; RAGE
Species:	Human
Source:	E. coli
Accession:	Q15109 (A23-S300)
Gene ID:	177
Molecular Weight:	Approximately 30.94 kDa

PROPERTIES

AA Sequence	<p>MAQNI TARIG EPLVLKCKGA P K K P P Q R L E W K L N T G R T E A W</p> <p>KVLS PQGGGP WDSVARVLPN G S L F L P A V G I Q D E G I F R C Q A</p> <p>MNRNGKETKS NYRVRVYQIP G K P E I V D S A S E L T A G V P N K V</p> <p>GTCVSEGSYP AGTLSWHLDG K P L V P N E K G V S V K E Q T R R H P</p> <p>ETGLFTLQSE LMVTPARGGD P R P T F S C S F S P G L P R H R A L R</p> <p>TAPIQPRVWE PVPLEEVLV V E P E G G A V A P G G T V T L T C E V</p> <p>PAQPSPQIHW MKDGVPLPLP P S P V L I L P E I G P Q D Q G T Y S</p>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 8.0.
Endotoxin Level	<0.1 EU per 1 µg of the protein by the LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>AGER Protein, a cell surface pattern recognition receptor, adeptly senses endogenous stress signals with a wide-ranging ligand repertoire, encompassing advanced glycation end products, S100 proteins, high-mobility group box 1 protein/HMGB1, amyloid beta/APP oligomers, nucleic acids, phospholipids, and glycosaminoglycans. Accumulation of advanced glycosylation end products, especially prevalent in aging and diabetes, triggers inflammatory responses at various disease sites, including diabetes, vascular complications, neurodegenerative disorders, and cancers. RAGE, upon ligand binding, utilizes TIRAP and MYD88 as adapters to transduce signals, ultimately inducing inflammatory cytokines IL6,</p>
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IL8, and TNFalpha through NF-kappa-B activation. Noteworthy interactions include S100A12-triggered cellular activation, S100B-induced apoptosis post-myocardial infarction, and the facilitation of amyloid-beta peptide translocation in cortical neurons. AGER also plays a role in endothelial albumin transcytosis with HMGB1 through the RAGE/SRC/Caveolin-1 pathway, leading to endothelial hyperpermeability, and mediates the loading of HMGB1 in extracellular vesicles for hepatocyte pyroptosis via the NLRP3 inflammasome. Additionally, it promotes extracellular hypomethylated DNA uptake for the activation of inflammatory responses. The constitutive homodimeric and oligomeric forms, along with interactions with S100 proteins, APP, TIRAP, and HMGB1, highlight the intricate involvement of AGER Protein in various cellular processes and pathological conditions.

Caution: Product has not been fully validated for medical applications. For research use only.

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