



Alpha 1 microglobulin Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP58454

Specification

Alpha 1 microglobulin Polyclonal Antibody - Product Information

Application
Primary Accession
Reactivity
Host
Clonality
Calculated MW
Physical State
Immunogen

Epitope Specificity Isotype **Purity** affinity purified by Protein A

Buffer

SUBCELLULAR LOCATION SIMILARITY

SUBUNIT

Post-translational modifications

WB, IHC-P, IHC-F, IF, E
P02760
Rat, Dog, Bovine
Rabbit
Polyclonal
7/16/37 KDa
Liquid
KLH conjugated synthetic peptide derived
from human Protein AMBP
281-352/352

0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Secreted.

In the N-terminal section; belongs to the calycinsuperfamily. Lipocalin family. Contains 2 BPTI/Kunitz inhibitor domains. I-alpha-I plasma protease inhibitors are assembled fromone or two heavy chains (H1. H2 or H3) and one light chain.bikunin. Inter-alpha-inhibitor (I-alpha-I) is composed of H1, H2and bikunin, inter-alpha-like inhibitor (I-alpha-LI) of H2 andbikunin, and pre-alpha-inhibitor (P-alpha-I) of H3 and bikunin.Alpha-1-microglobulin occurs as a monomer and also in complexes with IgA and albumin. Alpha-1-microglobulin interacts with FN1. Trypstatin is a monomer and also occurs as a complex with tryptasein mast cells (By similarity). Alpha-1-microglobulin and bikunininteract (via SH3 domain) with HEV ORF3 protein. The precursor is proteolytically processed into separately functioning proteins.3-hydroxykynurenine, an oxidized tryptophan metabolite thatis common in biological fluids, reacts with Cys-53, Lys-111, Lys-137, and Lys-149 to form

heterogeneous polycyclic chromophoresincluding

hydroxanthommatin. The reaction by



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alpha-1-microglobulinis autocatalytic; the human protein forms chromophore even whenexpressed in insect and bacterial cells. The chromophore can react with accessible cysteines forming non-reducible thioethercross-links with other molecules of alpha-1-microglobulin or withother proteins such as Ig alpha-1 chain C region 'Cys-352'. Heavy chains are interlinked with bikunin via a chondroitin4-sulfate bridge to the their C-terminal aspartate (By similarity). N- and O-glycosylated. N-glycan heterogeneity at Asn-115:Hex5HexNAc4 (major), Hex6HexNAc5 (minor) and dHex1Hex6HexNAc5(minor). N-glycan at Asn-250: Hex5HexNAc4. O-linkage of theglycosaminoglycan, chondroitin sulfate, at Ser-215 allowscross-linking between the three polypeptide chains. This product as supplied is intended for research use only, not for use in human,

therapeutic or diagnostic applications.

Important Note

Background Descriptions

This gene encodes a complex glycoprotein secreted inplasma. The precursor is proteolytically processed into distinctfunctioning proteins: alpha-1-microglobulin, which belongs to thesuperfamily of lipocalin transport proteins and may play a role inthe regulation of inflammatory processes, and bikunin, which is aurinary trypsin inhibitor belonging to the superfamily ofKunitz-type protease inhibitors and plays an important role in manyphysiological and pathological processes. This gene is located onchromosome 9 in a cluster of lipocalin genes.

Alpha 1 microglobulin Polyclonal Antibody - Additional Information

Gene ID 259

Other Names

Protein AMBP, Alpha-1-microglobulin, Protein HC, Alpha-1 microglycoprotein, Complex-forming glycoprotein heterogeneous in charge, Inter-alpha-trypsin inhibitor light chain, ITI-LC, Bikunin, EDC1, HI-30, Uronic-acid-rich protein, Trypstatin, AMBP, HCP, ITIL

Target/Specificity

Expressed by the liver and secreted in plasma. Alpha-1-microglobulin occurs in many physiological fluids includingplasma, urine, and cerebrospinal fluid. Inter-alpha-trypsininhibitor is present in plasma and urine.

Dilution

- WB~~1:1000<br \><span class</pre>
- ="dilution_IHC-P">IHC-P~~N/A<br \><span class
- ="dilution IHC-F">IHC-F~~N/A<br \><span class

Format

0.01M TBS(pH7.4), 0.09% (W/V) sodium azide and 50% Glyce

Storage

Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH



7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Alpha 1 microglobulin Polyclonal Antibody - Protein Information

Name AMBP

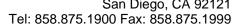
Synonyms HCP, ITIL

Function

[Alpha-1-microglobulin]: Antioxidant and tissue repair protein with reductase, heme-binding and radical-scavenging activities. Removes and protects against harmful oxidants and repairs macromolecules in intravascular and extravascular spaces and in intracellular compartments $\label{lem:conditions} $$(PubMed:11877257, $$PubMed:15683711,$ PubMed: 22096585, PubMed: 23157686, PubMed:23642167, PubMed:25698971, PubMed:32092412, PubMed:32823731). Intravascularly, plays a regulatory role in red cell homeostasis by preventing heme- and reactive oxygen species-induced cell damage. Binds and degrades free heme to protect fetal and adult red blood cells from hemolysis (PubMed: 11877257, PubMed:32092412). Reduces extracellular methemoglobin, a Fe3+ (ferric) form of hemoglobin that cannot bind oxygen, back to the Fe2+ (ferrous) form deoxyhemoglobin, which has oxygen-carrying potential (PubMed:15683711). Upon acute inflammation, inhibits oxidation of low- density lipoprotein particles by MPO and limits vascular damage (PubMed:25698971). Extravascularly, protects from oxidation products formed on extracellular matrix structures and cell membranes. Catalyzes the reduction of carbonyl groups on oxidized collagen fibers and preserves cellular and extracellular matrix ultrastructures (PubMed: 22096585, PubMed:23642167). Importantly, counteracts the oxidative damage at blood-placenta interface, preventing leakage of free fetal hemoglobin into the maternal circulation (PubMed:21356557). Intracellularly, has a role in maintaining mitochondrial redox homeostasis. Bound to complex I of the respiratory chain of mitochondria, may scavenge free radicals and preserve mitochondrial ATP synthesis. Protects renal tubule epithelial cells from heme-induced oxidative damage to mitochondria (PubMed: 23157686, PubMed:32823731). Reduces cytochrome c from Fe3+ (ferric) to the Fe2+ (ferrous) state through formation of superoxide anion radicals in the presence of ascorbate or NADH/NADPH electron donor cofactors, ascorbate being the preferred cofactor (PubMed: 15683711). Has a chaperone role in facilitating the correct folding of bikunin in the endoplasmic reticulum compartment (By similarity).

Cellular Location

[Alpha-1-microglobulin]: Secreted. Endoplasmic reticulum. Cytoplasm, cytosol. Cell membrane; Peripheral membrane protein. Nucleus membrane; Peripheral membrane protein. Mitochondrion inner membrane; Peripheral membrane protein. Secreted, extracellular space, extracellular matrix. Note=The cellular uptake occurs via a non-endocytotic pathway and allows for localization to





various membrane structures. A specific binding to plasma membrane suggests the presence of a cell receptor, yet to be identified Directly binds collagen fibers type I.

Tissue Location

[Alpha-1-microglobulin]: Expressed by the liver and secreted in plasma. Occurs in many physiological fluids including plasma, urine, and cerebrospinal fluid (PubMed:11877257). Expressed in epidermal keratinocytes, in dermis and epidermal-dermal junction (at protein level) (PubMed:22096585). Expressed in red blood cells (at protein level) (PubMed:32092412). Expressed in placenta (PubMed:21356557).

Alpha 1 microglobulin Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Alpha 1 microglobulin Polyclonal Antibody - Images