

## Alpha 1-Microglobulin Protein, Rat (HEK293, His)

Cat. No.:	HY-P76169
Synonyms:	Alpha-1-microglobulin; Protein HC; ITI-LC; Bikunin; AMBP
Species:	Rat
Source:	HEK293
Accession:	Q64240 (D20-A202)
Gene ID:	25377
Molecular Weight:	Approximately 25-30 kDa due to the glycosylation

### PROPERTIES

AA Sequence	D N V P T L P D I Q      V Q E N F N E A R I      Y G K W F N L A V G      S T C P W L R R I K N K M S V S T L V L      Q E G A T E A E I S      V T S T Q W R K G V      C E E I S G V Y Q K T D I D G K F L Y H      K S K W N A T L E S      Y V V H T N Y D E Y      A I F L T K K F S H R H G P T I T A K L      Y G R E P Q L R D S      L L Q E F R E V A L      S V G I P E N S I V F M A D R G E C V P      G D R E V E S T S F      A R A
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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>Bikunin is involved in maintaining the structure and function of the extracellular matrix and cell membranes. It acts as an antioxidant by reducing oxidized collagen fibers and preventing oxidative damage at the blood-placenta interface. It also helps maintain mitochondrial redox homeostasis by scavenging free radicals and preserving ATP synthesis. Bikunin protects renal tubule epithelial cells from heme-induced oxidative damage to mitochondria. It has a chaperone role in facilitating the correct folding of bikunin itself in the endoplasmic reticulum. Bikunin is a serine protease inhibitor and plays a role in extracellular space remodeling and cell adhesion. It inhibits various proteases involved in inflammation and cytotoxic responses. Bikunin is also involved in the transfer of heavy chains from the I-alpha-I complex to hyaluronan, allowing for the</p>
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remodeling of extracellular matrix proteoglycan structures. Additionally, it plays a role in cumulus oophorus expansion during ovulation and inhibits calcium oxalate crystallization.

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

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