

Recombinant Human Haptoglobin-Zonulin

Catalog Number: 6001-20-CF, 6001-50-CF, 6001-50

Produced and purified from Serum Free/ Animal Free media

Product Description

Name:	Recombinant Human Haptoglobin-Zonulin
Species:	Human
Source:	HEK 293 cells
Amino acids:	19 to 406 (Arg-161 mutated to Gly-161)
Predicted Molecular Weight:	43.2 kDa
ProteinID:	HPT_HUMAN

Sequence:

VDSGNDVTDIADDGCPKPPEIAHGYVEHSVRYQCKNYYKLRTGEGVYTL
NDKKQWINKAVGDKLPECEADDGCPKPPEIAHGYVEHSVRYQCKNYYKL
TEGDGVYTLNNEKQWINKAVGDKLPECEAVCGKPKNPANPVQGILGGHLD
AKGSFPWQAKMVSHHNLTTGATLINEQWLLTTAKNLFLNHSENATAKDIA
PTLTLYVGKKQLVEIEKVVLPNYSQVDIGLIKQKQVSVNERVMPICLP
SKDYAEVGRVGYVSGWGRNANFKFTDHLKYVMLPVADQDQCIRHYEGSTV
PEKKTSPKSPVGVQPILNEHTFCAGMSKYQEDTCYGDAGSAFAVHDLEEDT
WYATGILSFDKSCAVAEYGVYVKVTSIQDWVQKTIAEN*

**Recombinant proteins are expressed from synthetic genes. DAPCEL, Inc. synthetic gene design technology provides highest protein quality in terms of protein folding and bioactivity.*

Product Specifications

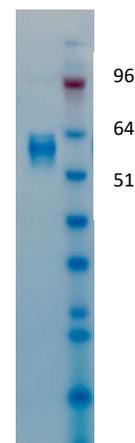
Estimated Molecular Weight, SDS-PAGE: 55 kDa, under reducing conditions.

Grade & Purity: >95%, (according to SDS-PAGE stained with SimplyBlue Safe Stain, (Invitrogen)).

Endotoxins: Less than 0.1 EU per 1 µg of the protein by LAL method.

Bioactivity: Under "Selected Publications"

Formulation: Lyophilized from 0.2 µm filtered solution of PBS, pH 7.4.



Haptoglobin-Zonulin Background Information:

Alternate Names: Haptoglobin, Zonulin, Haptoglobin alpha chain, Haptoglobin beta chain, Haptoglobin isoform 2 preproprotein, BP, HP2ALPHA2, HPA1S.

Haptoglobin participates in intestinal permeability, permitting intercellular tight junction disassembly, and controlling the equilibrium among tolerance and immunity to non-self-antigens. Haptoglobin has antibacterial activity and takes part in modulating many aspects of the acute phase response. Haptoglobin is processed to yield both alpha and beta chains, which later unite as a tetramer to produce haptoglobin. Haptoglobin binds free hemoglobin (Hb) secreted from erythrocytes in blood plasma with high affinity and thus inhibits its oxidative activity. Further, the haptoglobin-hemoglobin complex is being removed by the reticuloendothelial system.

Selected Publications:

Rahman MT, Ghosh C, Hossain M, et al. (2018).

IFN- γ , IL-17A, or zonulin rapidly increase the permeability of the blood-brain and small intestinal epithelial barriers: relevance for neuro-inflammatory diseases.

Biochemical and Biophysical Research Communications, 507(1–4), 274–279.

<https://doi.org/10.1016/j.bbrc.2018.11.021>

This study demonstrated that zonulin rapidly increases permeability of intestinal epithelial and blood-brain barriers by altering tight-junction organization and actin cytoskeleton dynamics, supporting its role as a key regulator of barrier function in inflammatory disease models

Shipping

Product is shipped at ambient temperature. Upon receipt, store at temperatures recommended below.

Product application and Storage

Reconstitution: Spin before opening. For optimal recovery - reconstitute in sterile water at ~0.1 mg/mL at room temperature; after adding water, re-cap the vial and tap gently, ensure to cover all the surfaces inside the vial. Do not mix by vortexing or by extensive pipetting. Let the vial sit at room temperature with gentle agitation for at least 10-15 minutes before aliquoting or using.

Storage: To avoid loss of the protein, store the reconstituted protein in aliquots (no smaller than 10 μ L) in polypropylene or siliconized tubes. Store dried and reconstituted protein at -20 and/or -80°C. Avoid repeated freeze-thaw cycles.

Stability:

12 months from date of receipt, stored at -20 to -80 °C as supplied.

6 months, -20 to -70 °C under sterile conditions after reconstitution in water.

1 month, 2 to 8 °C under sterile conditions after reconstitution in water.

Application Note: For research purposes only. Not for use in humans.