

## Fetuin A Protein, Human, Recombinant (His)

### General Information

Synonyms:	HSGA;alpha-2-HS-glycoprotein;FETUA;AHS;A2HS;α-2-HS-glycoprotein
Protein Construction:	Ala19-Val367
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P02765
Molecular Weight:	38.36 kDa (predicted); 60 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 95% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 μm filtered solution of 20mM Tris-HCl, 150mM NaCl, pH 7.5.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Fetuin-A, also known as Alpha-2-HS-Glycoprotein (AHSG), belongs to the Fetuin family, is a plasma binding protein, and is more abundant in fetal than adult blood. It is involved in several functions, such as endocytosis, brain development and the formation of bone tissue. Fetuins are carrier proteins like albumin. Fetuin-A forms soluble complexes with calcium and phosphate and thus is a carrier of otherwise insoluble calcium phosphate. Thus Fetuin-A is a potent inhibitor of pathological calcification. The circulating levels of fetuin-A, a well-described inhibitor of calcification, regulate the cell-dependent process of osteogenesis. The low circulating fetuin-A levels

are associated with a greater prevalence and/or severity of Vascular calcification (VC) and increased risk for all-cause and cardiovascular mortality. However, high circulating fetuin-A levels appear to induce insulin resistance and, in non-dialyzed subjects with diabetic nephropathy, are directly related to VC burden. The emerging role of fetuin-A deficiency as a risk factor in dialysis patients was documented in cross-sectional studies demonstrating a significant correlation with all-cause and cardiovascular mortality. Additionally, Human fetuin-A is a negative acute phase protein involved in inflammatory diseases, thus being a potential physiological regulator of meprin activity. Fetuin-A is a broad-range protease inhibitor. Fetuin-A and cystatin C as endogenous proteolytic regulators of meprin activity broadens our understanding of the proteolytic network in plasma.

### Reference

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