

# Mouse Fetuin-A / AHSG Protein (His Tag)

Catalog Number: 50093-M08H



**Sino Biological Inc.**

Biological Solution Specialist

## General Information

### Gene Name Synonym:

A2HS; AHS; FETUA; HSGA

### Protein Construction:

A DNA sequence encoding the mouse AHSG (NP\_032037.2) precursor (Met1-Ile 345) was expressed with a polyhistidine tag at the C-terminus.

**Source:** Mouse

**Expression Host:** Human Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio Activity:

1. Measured by its binding ability in a functional ELISA. Immobilized human FCN1 at 10 µg/mL can bind biotinylated recombinant mouse Fetuin-A with a linear range of 16-2000 ng/mL. 2. Measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate, Mca-RPKPVE-Nval-WRK(Dnp)-NH<sub>2</sub>, AnaSpec, Catalog # 27114. The IC<sub>50</sub> value is

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Ala 19

### Molecular Mass:

The secreted recombinant mouse AHSG consists of 338 amino acids and has a predicted molecular mass of 36.7 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rm AHSG is approximately 50 kDa due to glycosylation.

### Formulation:

Lyophilized from sterile 25mM Tris, 0.15mM NaCl, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

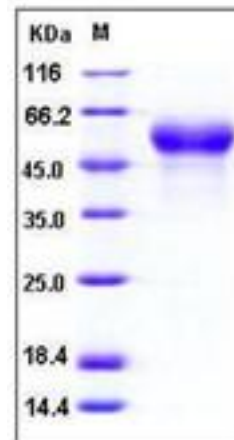
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

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.

## References

1. Mehrotra R. (2007) Emerging role for fetuin-A as contributor to morbidity and mortality in chronic kidney disease. *Kidney Int.* 72(2): 137-40.
2. Westenfeld R, et al. (2007) Vascular calcification and fetuin-A deficiency in chronic kidney disease. *Trends Cardiovasc Med.* 17(4): 124-8.
3. Heiss A, et al. (2008). Hierarchical role of fetuin-A and acidic serum proteins in the formation and stabilization of calcium phosphate particles. *J Biol Chem.* 283 (21): 14815-25.

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