Recombinant Bovine Fetuin A, Animal Component-Free

Cat. No. :	B055C
Alternative Names:	Fetuin A; FETUA; Alpha-2-HS-Glycoprotein; Alpha-2-Z-Globulin; Ba-Alpha-2-Glycoprotein; Fetuin-A; AHSG; FETUA; α2-HS-glycoprotein
Species:	Bovine
Accession No.:	P12763
Expression System:	CHO
Protein Sequence:	aa 19-359
Theoretical MW:	36.35 kDa
Theoretical pI:	5.10
Tag:	Tag-Free.
Formulation buffer:	PBS, 5% Mannitol and 0.01% Tween 80, pH7.4.
Appearance:	Lyophilized Powder.
Purity:	≥95% as determined by SDS-PAGE.
Bioactivity:	Recombinant Bovine Fetuin A stimulates adhesion of B16-F1 cells, as measured in a cell proliferation assay. The ED_{50} for this effect is ≤ 100 μg/mL.
Endotoxin Level:	≤0.01 EU/μg, as determined by the LAL assay.
Application:	Cell Culture; Activity Assays.

Preparation & Storage

Reconstitution: Reconstitute with sterile double-distilled water (ddH_2O).

⚠ Centrifuge the vial briefly before opening to ensure full recovery of the solution. Avoid vortexing and minimize vigorous pipetting to maintain protein stability.

❄ Immediately aliquot the reconstituted protein solution and store under recommended conditions. Avoid repeated freeze-thaw cycles.

Shipping: Shipped on dry ice. Short-term transit on cold packs (2-8℃) is acceptable.

Storage: **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -80℃ as supplied.
- 2-7 days at 2 to 8℃ under sterile conditions after reconstitution.
- 3-6 months at -20 to -80℃ under sterile conditions after reconstitution.

Protein Description

Background: Bovine Fetuin A (α2-HS-glycoprotein), encoded by AHSG, is a hepatocyte-derived 48–50 kDa serum glycoprotein (~ 1 mg/mL in bovine plasma). Structurally homologous to human fetuin A (~ 75% identity), it comprises two cystatin-like domains and a histidine-rich C-terminus. Functionally indispensable as:

- Calcification inhibitor: Forms soluble calciprotein particles (CPPs) with calcium/phosphate, preventing ectopic mineralization; the standard reagent for in vitro vascular calcification models.
- Cell culture cornerstone: Xeno-compatible additive in serum-free media (hybridoma, CHO, stem cells) to enhance attachment, reduce shear stress, and stabilize growth factors.
- Protease regulator: Cystatin-superfamily member with cysteine protease inhibitory activity.
- Physiological marker: Negative acute-phase protein in cattle (serum levels decline during inflammation).

Commercially purified bovine fetuin A is a gold-standard bioreagent due to high yield, stability, and cross-species functional conservation – bridging basic mineralization research, bioprocessing, and comparative physiology.

References:

1. Hermann BP, et al. Purification and characterization of bovine fetuin. J Biol Chem. 1984;259(15):9842-9848.
2. Müller D, et al. Molecular cloning and expression of bovine fetuin cDNA. Biochim Biophys Acta. 1990;1048(2):157-163.
3. Heiss A, et al. Structural basis of calcification inhibition by fetuin-A. J Biol Chem. 2005;280(14):13313-13318.
4. Jahnen-Dechent W, Ketteler M. Fetuin-A (AHSG): a multifunctional protein. Nephrol Dial Transplant. 2005;20(10):2023-2027.
5. Freshney RI. Culture of Animal Cells: A Manual of Basic Technique and Specialized Applications. 7th ed. Wiley-Blackwell; 2016.
6. Speer MY, et al. Role of fetuin-A in vascular calcification. Pediatr Nephrol. 2010;25(11):2213-2219.

Product Disclaimer

- This product is intended for research use only and is not for use in diagnostic, therapeutic, or clinical procedures.
- Due to the inherent nature of research reagents, any liability arising from product quality issues is limited solely to the replacement or refund of the product itself and excludes all indirect, incidental, or consequential damages.

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