

fetuin-A (H-11): sc-137102

BACKGROUND

Fetuin (also designated α_2 -z-globulin or α_2 -HS-glycoprotein) is a secreted plasma protein that is expressed in hepatocytes, monocyte/macrophages and in bone and is downregulated during injury and inflammation. Fetuin preferentially binds to and carries calcium and barium ions in the blood, where it is thought to mediate serum calcium homeostasis and mineralization, and to potentially participate in the transport of bioactive molecules. Additionally, fetuin has been shown to function as an acute phase anti-inflammatory mediator that is critical to regulating the innate immune response following tissue injury. During inflammation, circulating fetuin levels substantially decrease as fetuin becomes associated with the membranes of macrophages. This membrane associated form of fetuin acts as an opsonic participant by potentiating the entry of cationic small molecules into the activated macrophage, which in turn facilitates macrophage-deactivating mechanisms. Biologically active fetuin is derived from a precursor protein that is cleaved at the amino-terminus to generate two chains held together by a single disulfide bond.

REFERENCES

1. Lebreton, J.P., et al. 1979. Serum concentration of human α_2 -HS glycoprotein during the inflammatory process: evidence that α_2 -HS glycoprotein is a negative acute-phase reactant. *J. Clin. Invest.* 64: 1118-1129.
2. Lee, C.C., et al. 1987. Human α_2 -HS-glycoprotein: the A and B chains with a connecting sequence are encoded by a single mRNA transcript. *Proc. Natl. Acad. Sci. USA* 84: 4403-4407.
3. Schinke, T., et al. 1996. The serum protein α_2 -HS glycoprotein/fetuin inhibits apatite formation *in vitro* and in mineralizing calvaria cells. A possible role in mineralization and calcium homeostasis. *J. Biol. Chem.* 271: 20789-20796.
4. Osawa, M., et al. 1997. Structure of the gene encoding human α_2 -HS glycoprotein (AHSGL). *Gene* 196: 121-125.
5. Dziegielewska, K.M., et al. 1998. Modification of macrophage response to lipopolysaccharide by fetuin. *Immunol. Lett.* 60: 31-35.
6. Wang, H., et al. 1998. Fetuin (α_2 -HS-glycoprotein) opsonizes cationic macrophage-deactivating molecules. *Proc. Natl. Acad. Sci. USA* 95: 14429-14434.
7. Banine, F., et al. 1998. Structural and functional analysis of the 5'-transcription control region for the human α_2 -HS glycoprotein gene. *Biochim. Biophys. Acta* 1398: 1-8.

CHROMOSOMAL LOCATION

Genetic locus: AHSGL (human) mapping to 3q27.3.

SOURCE

fetuin-A (H-11) is a mouse monoclonal antibody raised against amino acids 68-367 of fetuin-A of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

fetuin-A (H-11) is recommended for detection of fetuin-A of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for fetuin-A siRNA (h): sc-39442, fetuin-A shRNA Plasmid (h): sc-39442-SH and fetuin-A shRNA (h) Lentiviral Particles: sc-39442-V.

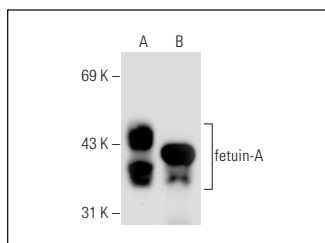
Molecular Weight of fetuin-A: 59 kDa.

Positive Controls: human plasma extract: sc-364374, Hep G2 cell lysate: sc-2227 or human PBL whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



fetuin-A (H-11): sc-137102. Western blot analysis of fetuin-A expression in Hep G2 (A) and human PBL (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, J., et al. 2016. iTRAQ-based proteomics identification of serum biomarkers of two chronic hepatitis B subtypes diagnosed by traditional chinese medicine. *Biomed Res. Int.* 2016: 3290260.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.