

# fetuin-A (N-20): sc-9663

## BACKGROUND

Fetuin (also designated  $\alpha$ -2- $\zeta$ -globulin or  $\alpha$ -2-HS-glycoprotein) is a secreted plasma protein that is expressed in hepatocytes, monocyte/macrophages and in bone and is down-regulated 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  $\alpha$ 2 HS glycoprotein during the inflammatory process: evidence that  $\alpha$ 2 HS glycoprotein is a negative acute-phase reactant. J. Clin. Invest. 64: 1118-1129.
2. Lee, C.C., et al. 1987. Human  $\alpha$ 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  $\alpha$ 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  $\alpha$ 2-HS glycoprotein (AHSG). Gene 196: 121-125.
5. Dziegielewska, K.M., et al. 1998. Modification of macrophage response to lipopolysaccharide by fetuin. Immunol. Lett. 60: 31-35.

## CHROMOSAL LOCATION

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

## SOURCE

fetuin-A (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of fetuin-A of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9663 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

fetuin-A (N-20) is recommended for detection of fetuin-A of human and, to a lesser extent, bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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.

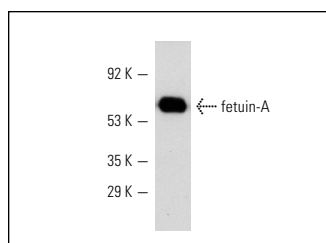
Molecular Weight of fetuin-A: 59 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

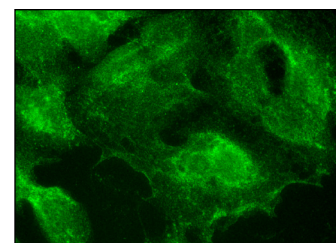
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



fetuin-A (N-20): sc-9663. Western blot analysis of calf fetal fetuin-A tissue extract.



fetuin-A (N-20): sc-9663. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Li, W., et al. 2011. A hepatic protein, fetuin-A, occupies a protective role in lethal systemic inflammation. PLoS ONE 6: e16945.

## RESEARCH USE

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

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Try **fetuin-A (H-4): sc-133146** or **fetuin-A (H-8): sc-166531**, our highly recommended monoclonal alternatives to fetuin-A (N-20).