SANTA CRUZ BIOTECHNOLOGY, INC.

fetuin-A (H-4): sc-133146

BACKGROUND

Fetuin (also designated α-2-ξ-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 antiinflammatory 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.

CHROMOSOMAL LOCATION

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

SOURCE

fetuin-A (H-4) is a mouse monoclonal antibody raised against amino acids 68-367 of fetuin-A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

fetuin-A (H-4) is available conjugated to agarose (sc-133146 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133146 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133146 PE), fluorescein (sc-133146 FITC), Alexa Fluor® 488 (sc-133146 AF488), Alexa Fluor® 546 (sc-133146 AF546), Alexa Fluor® 594 (sc-133146 AF594) or Alexa Fluor® 647 (sc-133146 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133146 AF680) or Alexa Fluor® 790 (sc-133146 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

fetuin-A (H-4) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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.

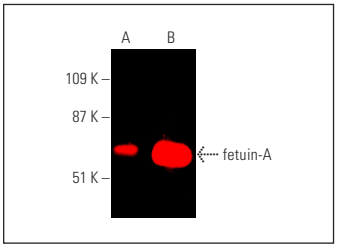
Molecular Weight of fetuin-A: 59 kDa.

Positive Controls: human heart extract: sc-363763, Hep G2 cell lysate: sc-2227 or human kidney extract: sc-363764.

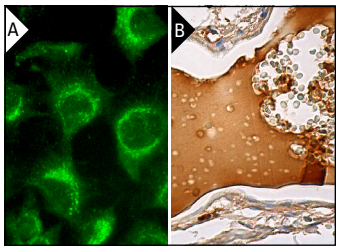
STORAGE

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

DATA



fetuin-A (H-4): sc-133146. Near-infrared western blot analysis of fetuin-A expression in human kidney (**A**) and human heart (**B**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



fetuin-A (H-4): sc-133146. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human blood vessel showing plasma staining (**B**).

SELECT PRODUCT CITATIONS

1. Lacerda, C.M., et al. 2009. Differential protein expression between normal, early-stage, and late-stage myxomatous mitral valves from dogs. Proteomics Clin. Appl. 3: 1422-1429.
2. Wallin, R., et al. 2010. Biosynthesis of the vitamin K-dependent matrix Gla protein (MGP) in chondrocytes: a fetuin-MGP protein complex is assembled in vesicles shed from normal but not from osteoarthritic chondrocytes. Osteoarthritis Cartilage 18: 1096-1103.
3. Zhou, Y., et al. 2016. Effect of exogenous fetuin-A on TGF-β/Smad signaling in hepatic stellate cells. Biomed Res. Int. 2016: 8462615.
4. Muñoz, V.R., et al. 2018. Exercise increases Rho-kinase activity and Insulin signaling in skeletal muscle. J. Cell. Physiol. 233: 4791-4800.
5. Wu, C.Y., et al. 2020. Ectopic calcification and formation of mineralo-organic particles in arteries of diabetic subjects. Sci. Rep. 10: 8545.
6. Singh, P., et al. 2020. Combination of pancreastatin inhibitor PSTi8 with metformin inhibits fetuin-A in type 2 diabetic mice. Heliyon 6: e05133.
7. Shin, J.W., et al. 2020. Bioinformatic analysis of proteomic data for iron, inflammation, and hypoxic pathways in restless legs syndrome. Sleep Med. 75: 448-455.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.