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Product Specification Sheet

Bovine Fetuin (Fetuin A, AHS, Alpha 2-HS) antibodies and controls

↓ Cat. # FETB11-S	Rabbit Anti- bovine fetuin protein antiserum	SIZE: 100 ul
↓ Cat. # FETB11-C	Bovine fetuin protein control for Western blot	SIZE: 100 ul

The product of the AHS gene is commonly referred to as fetuin in species other than the human. Fetuin was subsequently shown to be a very abundant plasma protein in fetal cattle, sheep, pig, and goat, and also to be present in humans and rodents. Fetuins are proteins, which are made in the liver and secreted into the blood. They belong to a large group of binding proteins mediating the transport and availability of a wide variety of substances (drugs, hormones, fatty acids, vitamins etc) in the blood. Fetuin is more abundant in fetal blood, hence the name fetuin (from lat. fetus). Fetal calf serum contains more fetuin than albumin, while adult serum contains more albumin than fetuin.

Human fetuin is synonymous with α 2-HS-Glycoprotein (genetic symbol AHS), α 2-HS, A2HS, AHS, HSGA and fetuin-A. Fetuin-A exists as a single copy gene in the human and mouse genomes. A closely related gene, fetuin-B also exists in the human, rat and mouse genomes. Like fetuin-A fetuin-B is made predominantly by the liver and to a lesser extent by a number of secretory tissues. Fetuins exists in all vertebrate genomes including fish and reptiles. Thus fetuins belong to the cystatin superfamily of proteins. Fetuin relatives within this superfamily are the histidine- rich glycoprotein (HRG) and kininogen (KNG). Fetuin-A deficiency dramatically increased the calcification proneness of these mice in that all mice spontaneously calcified throughout their body even without mineral-rich diet or surgical tissue trauma. Therefore Fetuin A is regarded as a potent inhibitor of systemic calcification. Fetuins have been implicated in several diverse functions, including osteogenesis and bone resorption, regulation of the insulin and hepatocyte growth factor receptors, and response to systemic inflammation.

Fetuin is a mixture of proteins containing a wider range of growth factors and attachments factors normally found in fetal calf serum. The major protein in fetuin is ~48.5 Kda (74% protein; glycosylated). The other minor components of fetuins are alpha-1 and alpha-2 globulins and variety of growth factors such as IGF-1/2 and FGFs. Fetuins, along with Transferrin, selenium and insulin, have been used in serum-free defined media formulations to increase cell attachment and growth. Fetuin is also an effective serine protease and it may improve cellular viability by inhibiting several proteases.

Animal source

Due to the concerns of BSE, there is increasing demand of animal derived proteins from countries that are free from BSE and Scrapie. The US recognizes Australia and New Zealand as the countries free from BSE and Scrapie. Australia is also free of List A diseases as defined by the World Organization for Animal Health (OIE). Fetuin supplied by GSI is produced from selected animals in **Australia** that have passed USDA inspection and free from diseases.

Bovine fetuin was purified from bovine of BSE-free origins. For Western blot +ve control (Cat # **FETB11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **FETB11-C** for good visibility with antibody Cat # **FETB11-S**. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **FETB11-C** solution

Prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Source of Antigen and Antibodies

Antigen	Highly purified antigenic grade (BSE-free) fetuin protein
Ab Host/type	Rabbit polyclonal antiserum # FETB11-S
2ab	Goat Anti-rabbit IgG-HRP cat # SA-20320 (AP, biotin, FITC conjugates also available)
-ve control	# SA-20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

↓ 100ul ↓ solution ↓ lyophilized powder
Supplied in Buffer: 0.05% azide

Reconstitute powder in 100 ul PBS

Stability: Store powder at -20oC for 2-3 years.

Recommended Usage

Western Blotting 1:1K-5K for antiserum using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: no tested. We recommend the use of 1:50 using formalin-fixed paraffin embedded tissues or 4% paraformaldehyde fixed frozen sections.

Specificity & Cross-reactivity

The antibodies react with bovine fetuin. No significant reactivity is observed with human fetuin. Antibody cross reactivity in various species is not established. Antibodies to human (Cat# FETA13-M; FETA15-A) and mouse fetuin (#FETA14-M) as well as purified human, mouse, and bovine fetuin are available for control studies.

*This product is for In vitro research use only.