SANTA CRUZ BIOTECHNOLOGY, INC.

ZAG (6G2): sc-21721



BACKGROUND

ZAG (Zn- α 2-glycoprotein, also designated Zn- α 2-gp) is a soluble, secreted protein found in serum and other body fluids (such as cerebrospinal fluid, blood plasma, urine and sweat). ZAG has a tendency to precipitate with zinc salts, has electrophoretic mobility in the region of the two globulins, and has 18% carbohydrate content. A member of the immunoglobulin superfamily, ZAG has a high degree of sequence similarity to class-I major histocompatibility complex (MHC) antigens. The ZAG structure includes a large groove analogous to class I MHC peptide binding grooves. The crystal structure of ZAG resembles a class I MHC heavy chain but does not bind the class I light chain β -2-Microglobulin, unlike other MHC related proteins. ZAG stimulates lipid degradation in adipocytes and its overexpression causes the extensive fat losses associated with some advanced cancers.

REFERENCES

- 1. Jirka, M., et al. 1973. Zn- $\alpha 2$ -glycoprotein in sweat. Cas. Lek. Cesk. 112: 1606-1608.
- Ekman, R., et al. 1976. Renal handling of Zn-α2-glycoprotein as compared with that of albumin and the retinol-binding protein. J. Clin. Invest. 57: 945-954.
- 3. Shibata, S., et al. 1982. Nephritogenic glycoprotein. IX. Plasma Zn- α 2-glycoprotein as a second source of nephritogenic glycoprotein in urine. Nephron 31: 170-176.
- Uria, J.A., et al. 1996. Alternative splicing gives rise to two novel long isoforms of Zn-α2-glycoprotein, a member of the immunoglobulin superfamily. Gene 169: 233-236.
- Sanchez, L.M., et al. 1997. Biochemical characterization and crystalization of human Zn-α2-glycoprotein, a soluble class I major histocompatibility complex homolog. Proc. Natl. Acad. Sci. USA 94: 4626-4630.
- Davidsson, P., et al. 1999. Peptide mapping of proteins in cerebrospinal fluid utilizing a rapid preparative two-dimensional electrophoretic procedure and matrix-assisted laser desorption/ionization mass spectrometry. Biochim. Biophys. Acta 1473: 391-399.

CHROMOSOMAL LOCATION

Genetic locus: AZGP1 (human) mapping to 7q22.1; Azgp1 (mouse) mapping to 5 G2.

SOURCE

ZAG (6G2) is a mouse monoclonal antibody raised against purified Zn- $\alpha 2$ -glycoprotein (ZAG) 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.

STORAGE

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

APPLICATIONS

ZAG (6G2) is recommended for detection of ZAG of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ZAG siRNA (h): sc-36865, ZAG siRNA (m): sc-36866, ZAG shRNA Plasmid (h): sc-36865-SH, ZAG shRNA Plasmid (m): sc-36866-SH, ZAG shRNA (h) Lentiviral Particles: sc-36865-V and ZAG shRNA (m) Lentiviral Particles: sc-36866-V.

Molecular Weight of ZAG: 47 kDa.

Positive Controls: ZAG (h): 293T Lysate: sc-114991, mouse spleen extract: sc-2391 or human spleen extract: sc-363779.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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





ZAG (6G2): sc-21721. Western blot analysis of ZAG expression in non-transfected: sc-117752 (**A**) and human ZAG transfected: sc-114991 (**B**) 293T whole cell lysates.

ZAG (6G2): sc-21721. Western blot analysis of ZAG expression in human spleen tissue extract.

SELECT PRODUCT CITATIONS

- Guo, J., et al. 2015. Lipopolysaccharide challenge significantly influences lipid metabolism and proteome of white adipose tissue in growing pigs. Lipids Health Dis. 14: 68.
- Yin, C., et al. 2017. Identification of potential serum biomarkers in pigs at early stage after Lipopolysaccharide injection. Res. Vet. Sci. 111: 140-146.

RESEARCH USE

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