ZAG (E-3): sc-390772



The Power to Question

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

- Jirka, M. and Blanicky, P. 1973. Zn-α2-glycoprotein in sweat. Cas. Lek. Cesk. 112: 1606-1608.
- 2. Ekman, R., Johansson, B.G. and Ravnskov, U. 1976. Renal handling of $Zn-\alpha 2$ -glycoprotein as compared with that of albumin and the retinol-binding protein. J. Clin. Invest. 57: 945-954.
- 3. Shibata, S. and Miura, K. 1982. Nephritogenic glycoprotein. IX. Plasma $Zn-\alpha 2$ -glycoprotein as a second source of nephritogenic glycoprotein in urine. Nephron 31: 170-176.
- Uria, J.A., Fueyo, A., Balbin, M., Velasco, G., Pendas, A.M. and Lopez-Otin, C. 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., Lopez-Otin, C. and Bjorkman, P.J. 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. and Nilsson, C.L. 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.
- 7 Sanchez, L.M., Chirino, A.J. and Bjorkman, P.J. 1999. Crystal structure of human ZAG, a fat-depleting factor related to MHC molecules. Science 283: 1914-1919.

SOURCE

ZAG (E-3) is a mouse monoclonal antibody raised against amino acids 1-433 representing full length ZAG of *Streptococcus equi* subsp. *zooepidemicus* origin.

PRODUCT

Each vial contains 200 $\mu g \; lgG_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ZAG (E-3) is recommended for detection of ZAG of *S. equi* subsp. *zooepidemicus* 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

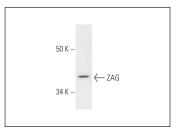
Molecular Weight of ZAG: 47 kDa.

Positive Controls: Streptococcus equi subspecies zooepidemicus whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM 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-lgG κ BP-FITC: sc-516140 or m-lgG 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



ZAG (E-3): sc-390772. Western blot analysis of ZAG expression in *Streptococcus equi* subspecies *zooepidemicus* whole cell lysate.

STORAGE

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

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.