

ZAG (H-3): sc-365851

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 MHC class I peptide binding grooves. The crystal structure of ZAG resembles a MHC class I 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- α -2-glycoprotein in sweat. *Cas. Lek. Cesk.* 112: 1606-1608.
- Ekman, R., Johansson, B.G. and Ravnkov, U. 1976. Renal handling of Zn- α -2-glycoprotein as compared with that of albumin and the retinol-binding protein. *J. Clin. Invest.* 57: 945-954.
- Shibata, S. and Miura, K. 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., 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- α -2-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- α -2-glycoprotein, a soluble class I major histocompatibility complex homolog. *Proc. Natl. Acad. Sci. USA* 94: 4626-4630.
- 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.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: AZGP1 (human) mapping to 7q22.1.

SOURCE

ZAG (H-3) is a mouse monoclonal antibody raised against amino acids 13-135 mapping near the N-terminus of ZAG of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ZAG (H-3) is recommended for detection of ZAG of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 ZAG siRNA (h): sc-36865, ZAG shRNA Plasmid (h): sc-36865-SH and ZAG shRNA (h) Lentiviral Particles: sc-36865-V.

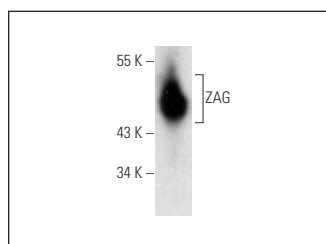
Molecular Weight of ZAG: 47 kDa.

Positive Controls: human spleen extract: sc-363779.

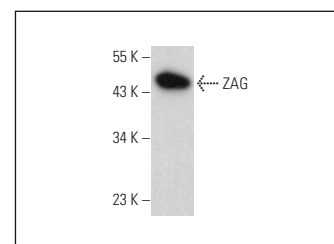
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG 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 (H-3): sc-365851. Western blot analysis of ZAG in human plasma.



ZAG (H-3): sc-365851. Western blot analysis of ZAG expression in human spleen tissue extract.

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.