

# ZAG (35): sc-136125

## BACKGROUND

ZAG (Zn- $\alpha$ 2-glycoprotein, also designated Zn- $\alpha$ 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  $\beta$ -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. and Blanicky, P. 1973. Zn- $\alpha$ 2-glycoprotein in sweat. *Cas. Lek. Cesk.* 112: 1606-1608.
2. Ekman, R., et al. 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.
4. Uria, J.A., et al. 1996. Alternative splicing gives rise to two novel long isoforms of Zn- $\alpha$ 2-glycoprotein, a member of the immunoglobulin superfamily. *Gene* 169: 233-236.
5. Sanchez, L.M., et al. 1997. Biochemical characterization and crystalization of human Zn- $\alpha$ 2-glycoprotein, a soluble class I major histocompatibility complex homolog. *Proc. Natl. Acad. Sci. USA* 94: 4626-4630.
6. 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., et al. 1999. Crystal structure of human ZAG, a fat-depleting factor related to MHC molecules. *Science* 283: 1914-1919.

## CHROMOSOMAL LOCATION

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

## SOURCE

ZAG (35) is a mouse monoclonal antibody raised against amino acids 7-102 of ZAG of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

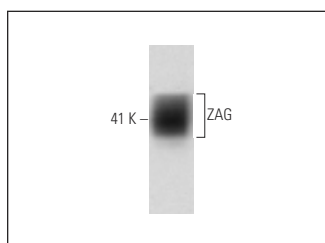
ZAG (35) is recommended for detection of ZAG of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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 plasma extract: sc-364374.

## DATA



ZAG (35): sc-136125. Western blot analysis of ZAG expression in human plasma.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.