



ZAG (13-135): sc-4500 WB

BACKGROUND

ZAG (Zn- α 2-glycoprotein, also designated Zn- α 2-gp) is a 41 kDa 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. ZAG, a member of the immunoglobulin superfamily, 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. and Blanicky, P. 1973. Zn- α 2-glycoprotein in sweat. *Cas. Lek. Cesk.* 112: 1606-1608.
2. Ekman, R., Johansson, B.G., and Ravnskov, 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.
3. 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.
4. 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.
5. 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.
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., 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 (13-135) is expressed in *E. coli* as a 41 kDa tagged fusion protein corresponding to amino acids 13-135 of ZAG of human origin.

PRODUCT

ZAG (13-135) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

ZAG (13-135) is suitable as a Western blotting control for sc-11358.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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