SANTA CRUZ BIOTECHNOLOGY, INC.

CD59 (23-101): sc-4369 WB



BACKGROUND

CD59 (1F-5Ag, H19, HRF20, MACIF, MIRL, P-18 or protectin) is a 19 kDa GPIanchored glycoprotein that is expressed on leukocytes, vascular endothelial cells, various epithelial cells and placenta. CD59 acts together with CD58 in mediating T cell adhesion and activation, and it may be a second ligand of CD2. CD59 inhibits the cytolytic activity of complement by binding to C8 and C9 and blocking the assembly of the membrane attack complex (MAC). CD59-dependent inhibitsion of the formation of MAC protects cells from complement mediated lysis. Genetic defects in GPI-anchor attachment that cause a reduction or loss of both CD59 and CD55 on erythrocytes produce the symptoms of the disease paroxysmal nocturnal hemoglobinuria (PNH).

REFERENCES

- Landi, A.P., Wilson, A.B., Davies, A., Lachmann, P.J., Ferriani, V.P., Seilly, D.J., Assis-Pandochi, A.I. 2003. Determination of CD59 protein in normal human serum by enzyme immunoassay, using octyl-glucoside detergent to release glycosyl-phosphatidylinositol-CD59 from lipid complex. Immunol Lett 90: 209-213.
- Lin, F, Salant, D.J., Meyerson, H., Emancipator, S., Morgan, B.P., Medof, M.E. 2004. Respective roles of decay-accelerating factor and CD59 in circumventing glomerular injury in acute nephrotoxic serum nephritis. J Immunol 172: 2636-2642.
- 3 Giddings, K.S., Zhao, J., Sims, P.J., Tweten, R.K. 2004. Human CD59 is a receptor for the cholesterol-dependent cytolysin intermedilysin. Nat Struct Mol Biol 11: 1173-1178.
- 4. Qin, X., Goldfine, A., Krumrei, N., Grubissich, L., Acosta, J., Chorev, M., Hays, A.P., Halperin, J.A. 2004. Glycation inactivation of the complement regulatory protein CD59: a possible role in the pathogenesis of the vascular complications of human diabetes. Diabetes 53: 2653-2661.
- Storstein, A., Knudsen, A., Bjorge, L., Meri, S., Vedeler, C. 2004. Heterogeneous expression of CD59 on human Purkinje cells. Neurosci Lett 362: 21-25.
- Yamada, K., Miwa, T., Liu, J., Nangaku, M., Song, W.C. 2004. Critical protection from renal ischemia reperfusion injury by CD55 and CD59. J Immunol 172: 3869-3875.
- Davies, C.S., Harris, C.L., Morgan, B.P. 2005. Glycation of CD59 impairs complement regulation on erythrocytes from diabetic subjects. Immunology 114: 280-286.
- 8 Babiker, A.A., Nilsson, B., Ronquist, G., Carlsson, L., Ekdahl, K.N. 2005. Transfer of functional prostasomal CD59 of metastatic prostatic cancer cell origin protects cells against complement attack. Prostate 62: 105-114.
- Xu, C., Jung, M., Burkhardt, M., Stephan, C., Schnorr, D., Loening, S., Jung, K., Dietel, M., Kristiansen, G. 2005. Increased CD59 protein expression predicts a PSA relapse in patients after radical prostatectomy. Prostate 62: 224-232.

SOURCE

CD59 (23-101) is expressed in *E. coli* as a 36 kDa tagged fusion protein corresponding to amino acids 23-101 of CD59 of rat origin.

PRODUCT

CD59 (23-101) is purified from bacterial lysates (>98%) by column chromatography; supplied as 10 µg protein in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

CD59 (23-101) is suitable as a Western blotting control for sc-5641, sc-5642 and sc-9157.

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.