

GPVI (201-339): sc-4529 WB

BACKGROUND

CD32 (also designated Fc γ RII) is a 40 kDa low affinity receptor for the Fc fragment of aggregated IgG. CD32 is responsible for the clearance of immunocomplexes by macrophages and also plays an important role in the regulation of antibody production by B cells. In platelets and megakaryocytes, CD32 is noncovalently associated with a member of the immunoglobulin superfamily glycoprotein VI (GPVI), which is a collagen receptor that plays a critical role in collagen-induced platelet aggregation. Patients who are deficient in GPVI suffer from bleeding disorders, and GPVI may be involved with cardiovascular and cerebral vascular diseases. GPVI also binds the collagen related peptide (CRP) and convulxin (Cvx), a GPVI-specific ligand from snake venom, and GPVI mediates its signal through CD32, which in response to Cvx, leads to tyrosine phosphorylation and activation of Syk and PLC γ 2. The gene encoding human GPVI maps to chromosome 19q13 and produces three isoforms, full length GPVI-1 and two additional isoforms GPVI-2 and GPVI-3. Full length GPVI is detected as a 55 kDa protein in megakaryocytes, whereas it has an apparent molecular mass of 58 kDa in platelets.

REFERENCES

1. Barclay, A.N., Beyers, A.D., Birkeland, M.L., Brown, S.J., Somoza, C., and Williams, A.F. 1993. The Leukocyte Antigen Facts Book. London. Academic Press, 170-172.
2. Sondermann, P., Jacob, U., Kutscher, C., and Frey, J. 1999. Characterization and crystallization of soluble human Fc γ receptor II (CD32) isoforms produced in insect cells. *Biochemistry* 38: 8469-8477.
3. Jandrot-Perrus, M., Busfield, S., Lagrue, A.H., Xiong, X., Debili, N., Chickering, T., Le Couedic, J.P., Goodearl, A., Dussault, B., Fraser, C., Vainchenker, W., and Villeval, J.L. 2000. Cloning, characterization, and functional studies of human and mouse glycoprotein VI: a platelet-specific collagen receptor from the immunoglobulin superfamily. *Blood* 96: 1798-1807.
4. Asazuma, N., Wilde, J.I., Berlanga, O., Leduc, M., Leo, A., Schweighoffer, E., Tybulewicz, V., Bon, C., Liu, S.K., McGlade, C.J., Schraven, B., and Watson, S.P. 2000. Interaction of linker for activation of T cells with multiple adapter proteins in platelets activated by the glycoprotein VI-selective ligand, convulxin. *J. Biol. Chem.* 275: 33427-33434.
5. Ezumi, Y., Uchiyama, T., and Takayama, H. 2000. Molecular cloning, genomic structure, chromosomal localization, and alternative splice forms of the platelet collagen receptor glycoprotein VI. *Biochem. Biophys. Res. Commun.* 277: 27-36.
6. Nieswandt, B., Brakebusch, C., Bergmeier, W., Schulte, V., Bouvard, D., Mokhtari-Nejad, R., Lindhout, T., Heemskerk, J.W., Zirngibl, H., and Fassler, R. 2001. Glycoprotein VI but not α 2 β 1 integrin is essential for platelet interaction with collagen. *EMBO J.* 20: 2120-2130.
7. Lagrue-Lak-Hal, A.H., Debili, N., Kingbury, G., Lecut, C., Le Couedic, J.P., Villeval, J.L., Jandrot-Perrus, M., and Vainchenker, W. 2001. Expression and function of the collagen receptor GPVI during megakaryocyte maturation. *J. Biol. Chem.* 276: 15316-15325.

SOURCE

GPVI (201-339) is expressed in *E. coli* as a 43 kDa tagged fusion protein corresponding to amino acids 201-339 of GPVI of human origin.

PRODUCT

GPVI (201-339) 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

GPVI (201-339) is suitable as a Western blotting control for sc-20149.

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.