

CD109 (B-9): sc-271039

BACKGROUND

CD109 is a glycosylphosphatidylinositol (GPI)-linked cell surface glycoprotein. It is a member of the α -Macroglobulin/C3, C4, C5 family of thioester-containing proteins. CD109 is expressed by CD34⁺ acute myeloid leukemia cell lines, activated T lymphoblasts, activated platelets, T cell lines, endothelial cells, lung and esophageal squamous cell carcinomas and testis. It has all the characteristics of a cancer-testis antigen. CD109 carries the platelet-specific Gov antigen system, which is involved in platelet transfusion refraction, neonatal alloimmune thrombocytopenia and posttransfusion purpura.

REFERENCES

1. Sasaki, R., Takaku, F., Sakamoto, S. and Kanoh, Y. 1979. Terminal deoxynucleotidyl transferase activity and B cell markers in chronic myelogenous leukemia blast crisis. *Acta Haematol.* 62: 143-147.
2. Kelton, J.G., Smith, J.W., Horsewood, P., Humbert, J.R., Hayward, C.P. and Warkentin, T.E. 1990. Gova/b alloantigen system on human platelets. *Blood* 75: 2172-2176.
3. Lin, M., Sutherland, D.R., Horsfall, W., Totty, N., Yeo, E., Nayar, R., Wu, X.F. and Schuh, A.C. 2002. Cell surface antigen CD109 is a novel member of the α 2 macroglobulin/C3, C4, C5 family of thioester-containing proteins. *Blood* 99: 1683-1691.
4. Schuh, A.C., Watkins, N.A., Nguyen, Q., Harmer, N.J., Lin, M., Prosper, J.Y., Campbell, K., Sutherland, D.R., Metcalfe, P., Horsfall, W. and Ouwehand, W.H. 2002. A Tyrosine 703 serine polymorphism of CD109 defines the Gov platelet alloantigens. *Blood* 99: 1692-1698.
5. Giesert, C., Marxer, A., Sutherland, D.R., Schuh, A.C., Kanz, L. and Buhring, H.J. 2003. Antibody W7C5 defines a CD109 epitope expressed on CD34⁺ and CD34⁻ hematopoietic and mesenchymal stem cell subsets. *Ann. N.Y. Acad. Sci.* 996: 227-230.
6. Solomon, K.R., Sharma, P., Chan, M., Morrison, P.T. and Finberg, R.W. 2004. CD109 represents a novel branch of the α 2 macroglobulin/complement gene family. *Gene* 327: 171-183.
7. Zhang, J.M., Hashimoto, M., Kawai, K., Murakumo, Y., Sato, T., Ichihara, M., Nakamura, S. and Takahashi, M. 2005. CD109 expression in squamous cell carcinoma of the uterine cervix. *Pathol. Int.* 55: 165-169.

CHROMOSOMAL LOCATION

Genetic locus: CD109 (human) mapping to 6q13.

SOURCE

CD109 (B-9) is a mouse monoclonal antibody raised against amino acids 957-1041 mapping within an internal region of CD109 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

CD109 (B-9) is recommended for detection of CD109 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 CD109 siRNA (h): sc-44950, CD109 shRNA Plasmid (h): sc-44950-SH and CD109 shRNA (h) Lentiviral Particles: sc-44950-V.

Molecular Weight of CD109: 170 kDa.

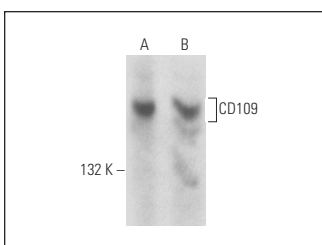
Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or human platelet extract: sc-363773.

RECOMMENDED SUPPORT REAGENTS

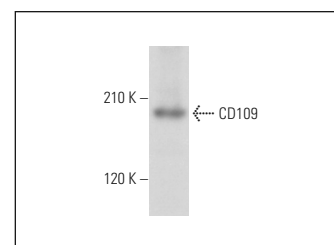
To ensure optimal results, the following support reagents are recommended:

- 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



CD109 (B-9): sc-271039. Western blot analysis of CD109 expression in human platelet extract (A) and HeLa whole cell lysate (B).



CD109 (B-9): sc-271039. Western blot analysis of CD109 expression in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Staubach, S., Müller, S., Pekmez, M. and Hanisch, F.G. 2017. Classical galactosemia: insight into molecular pathomechanisms by differential membrane proteomics of fibroblasts under galactose stress. *J. Proteome Res.* 16: 516-527.

STORAGE

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