SANTA CRUZ BIOTECHNOLOGY, INC.

IgA_1 (h2): 293T Lysate: sc-114781

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IgA_1 (immunoglobulin A_1) antibodies are the first line of defense against microbial pathogens. IgA_1 proteases are characterized by a polyprotein precursor molecule with four separate domains, including an N-terminal signal peptide sequence, a surface-directed mature protease domain, a variable region and a membrane-embedded C-terminal region that forms a β-barrel in the outer membrane through which the mature protein is exported. The regions of relatively constant sequence beyond the variable regions of immunoglobulins are termed constant regions (C regions) and are present in both the heavy and light chains. With few exceptions, the sites of attachment for carbohydrates to immunoglobulin are located in the C regions. These regions also serve to hold the variable regions together using the disulfide bond between them, facilitate interaction with the antigen and increase the maximum rotation of the arms.

REFERENCES

1. Herr, A.B., White, C.L., Milburn, C., Wu, C. and Bjorkman, P.J. 2003. Bivalent binding of IgA_1 to Fc α RI suggests a mechanism for cytokine activation of IgA phagocytosis. J. Mol. Biol. 327: 645-657.
2. Furtado, P.B., Whitty, P.W., Robertson, A., Eaton, J.T., Almogren, A., Kerr, M.A., Woof, J.M. and Perkins, S.J. 2004. Solution structure determination of monomeric human IgA_2 by X-ray and neutron scattering, analytical ultracentrifugation and constrained modelling: a comparison with monomeric human IgA_1. J. Mol. Biol. 338: 921-941.
3. Lai, K.N., Chan, L.Y., Tang, S.C., Tsang, A.W., Li, F.F., Lam, M.F., Lui, S.L. and Leung, J.C. 2004. Mesangial expression of Angiotensin II receptor in IgA nephropathy and its regulation by polymeric IgA_1. Kidney Int. 66: 1403-1416.
4. Senior, B.W. and Woof, J.M. 2005. The influences of hinge length and composition on the susceptibility of human IgA to cleavage by diverse bacterial IgA_1 proteases. J. Immunol. 174: 7792-7799.
5. Vidarsson, G., Overbeeke, N., Stemerding, A.M., van den Dobbelsteen, G., van Ulsen, P., van der Ley, P., Kilian, M. and van de Winkel, J.G. 2005. Working mechanism of immunoglobulin A_1 (IgA_1) protease: cleavage of IgA_1 antibody to *Neisseria meningitidis* PorA requires *de novo* synthesis of IgA_1 Protease. Infect. Immun. 73: 6721-6726.
6. Xu, L.X., Yan, Y., Zhang, J.J., Zhang, Y. and Zhao, M.H. 2005. The glycans deficiencies of macromolecular IgA_1 is a contributory factor of variable pathological phenotypes of IgA nephropathy. Clin. Exp. Immunol. 142: 569-575.
7. Amore, A., Monteiro, R. and Coppo, R. 2006. Immunoglobulin A (IgA) and its cellular receptors: recent advances and new pathogenetical hypothesis. G. Ital. Nefrol. 23: 313-322.
8. Bender, M.H. and Weiser, J.N. 2006. The atypical amino-terminal LPNTG-containing domain of the pneumococcal human IgA_1-specific protease is required for proper enzyme localization and function. Mol. Microbiol. 61: 526-543.
9. Yan, Y., Xu, L.X., Zhang, J.J., Zhang, Y. and Zhao, M.H. 2006. Self-aggregated deglycosylated IgA_1 with or without IgG were associated with the development of IgA nephropathy. Clin. Exp. Immunol. 144: 17-24.

CHROMOSOMAL LOCATION

Genetic locus: IGHA1 (human) mapping to 14p13.

PRODUCT

IgA_1 (h2): 293T Lysate represents a lysate of human IgA_1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

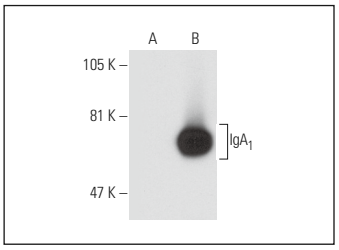
APPLICATIONS

IgA_1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive IgA_1 antibodies. Recommended use: 10-20 µl per lane.

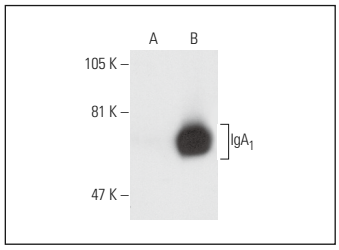
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

IgA (5E648): sc-71324 is recommended as a positive control antibody for Western Blot analysis of enhanced human IgA_1 expression in IgA_1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



IgA (5E648): sc-71324. Western blot analysis of IgA_1 expression in non-transfected: sc-117752 (**A**) and human IgA_1 transfected: sc-114781 (**B**) 293T whole cell lysates.



IgA (AD3): sc-66168. Western blot analysis of IgA_1 expression in non-transfected: sc-117752 (**A**) and human IgA_1 transfected: sc-114781 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.