

Ag85 (HYT 27): sc-57611

BACKGROUND

Antigen 85 complex (Ag85) is a major secretory product of actively growing *Mycobacterium tuberculosis* that induces strong cellular and humoral immune responses in infected mammals. The Ag85 proteins (85A, 85B and 85C) function to maintain the integrity of the highly hydrophobic cell wall by catalyzing the transfer of mycolic acids to the wall arabinogalactan and through the synthesis of trehalose dimycolate (cord factor). Ag85 also allows for a rapid invasion of the microbe into host alveolar macrophages through direct interactions between the host immune system and the invading bacillus. Intranasal vaccination of this protein induces a significantly high level of interferon- γ , interleukin-12, interleukin-4 and imparted protection in cattle. Circulating levels of Ag85 as complexes with plasma fibronectin and IgG are elevated in patients with active tuberculosis and can be a useful tool for diagnosis.

REFERENCES

1. Russo, D.M., Kozlova, N., Lakey, D.L. and Kernodle, D. 2000. Naive human T cells develop into Th1 effectors after stimulation with *Mycobacterium tuberculosis*-infected macrophages or recombinant Ag85 proteins. *Infect. Immun.* 68: 6826-6832.
2. Lilenbaum, W., Pessolani, M.C. and Fonseca, L.S. 2001. The use of Ag85 complex as antigen in ELISA for the diagnosis of bovine tuberculosis in dairy cows in Brazil. *J. Vet. Med. B Infect. Dis. Vet. Public Health* 48: 161-166.
3. Kilbourn, A.M., Godfrey, H.P., Cook, R.A., Calle, P.P., Bosi, E.J., Bentley-Hibbert, S.I., Huygen, K., Andau, M., Ziccardi, M. and Karesh, W.B. 2001. Serum Antigen 85 levels in adjunct testing for active mycobacterial infections in orangutans. *J. Wildl. Dis.* 37: 65-71.
4. Malin, A.S., Huygen, K., Content, J., Mackett, M., Brandt, L., Andersen, P., Smith, S.M. and Dockrell, H.M. 2001. Vaccinia expression of *M. tuberculosis*-secreted proteins: tissue plasminogen activator signal sequence enhances expression and immunogenicity of *M. tuberculosis* Ag85. *Microbes Infect.* 2: 1677-1685.
5. Tanghe, A., D'Souza, S., Rosseels, V., Denis, O., Ottenhoff, T.H., Dalemans, W., Wheeler, C. and Huygen, K. 2001. Improved immunogenicity and protective efficacy of a tuberculosis DNA vaccine encoding Ag85 by protein boosting. *Infect. Immun.* 69: 3041-3047.
6. Valle, M.T., Megiovanni, A.M., Merlo, A., Li Pira, G., Bottone, L., Angelini, G., Bracci, L., Lozzi, L., Huygen, K. and Manca, F. 2001. Epitope focus, clonal composition and Th1 phenotype of the human CD4 response to the secretory mycobacterial antigen Ag85. *Clin. Exp. Immunol.* 123: 226-232.
7. Rosseels, V., Marche, S., Roupie, V., Govaerts, M., Godfroid, J., Walravens, K. and Huygen, K. 2005. Members of the 30 to 32 kDa mycolyl transferase family (Ag85) from culture filtrate of *Mycobacterium avium* subsp. *paratuberculosis* are immunodominant Th1-type antigens recognized early upon infection in mice and cattle. *Infect. Immun.* 74: 202-212.

SOURCE

Ag85 (HYT 27) is a mouse monoclonal antibody raised against a bacterial press extract from *Mycobacterium tuberculosis* strain H37Rv.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Ag85 (HYT 27) is recommended for detection of *Mycobacterium mycolyl transferase* and *Mycobacterium tuberculosis* Ag85C by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of Ag85: 30-32 kDa.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. 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.