

S-antigen (PFS-3): sc-52210

BACKGROUND

Plasmodium falciparum is a protozoan parasite that causes malaria. It exhibits considerable antigenic heterogeneity which may be a major problem in developing an effective vaccine against malaria. The S-antigen of *Plasmodium falciparum* is a highly diverse, heat stable protein that is located in the parasitophorous vacuole of the mature asexual intraerythrocytic parasite. The S-antigen gene consists of multiple alleles that originate from the same chromosome site. The amino acid sequence of each allele contains a large central section of tandemly arranged, nearly identical peptides that are specific to each allele. Thus, antibodies directed against the repeat region of a particular allele can be used to define the serotype of an S-antigen. Flanking the central repeat block are two short regions of non-repetitive sequence which occur in four different forms, each of which is utilized to define a single S-antigen family. Comparison of the four S-antigen families reveals that they differ considerably from each other with variation being most pronounced in the C-terminal-flanking region.

REFERENCES

1. Saint, R.B., Coppel, R.L., Cowman, A.F., Brown, G.V., Shi, P.T., Barzaga, N., Kemp, D.J. and Anders, R.F. 1987. Changes in repeat number, sequence and reading frame in S-antigen genes of *Plasmodium falciparum*. *Mol. Cell Biol.* 7: 2968-2973.
2. Brown, H., Kemp, D.J., Barzaga, N., Brown, G.V., Anders, R.F. and Coppel, R.L. 1988. Sequence variation in S-antigen genes of *Plasmodium falciparum*. *Mol. Biol. Med.* 4: 365-376.
3. Mattei, D., Langsley, G., Braun-Breton, C., Guillotte, M., Dubremetz, J.F. and Mercereau-Puijalon, O. 1988. The S-antigen of *Plasmodium falciparum* Palo Alto represents a new S-antigen serotype. *Mol. Biochem. Parasitol.* 27: 171-180.
4. Nicholls, S.C., Hillman, Y., Lockyer, M.J., Odink, K.G. and Holder, A.A. 1988. An S-antigen gene from *Plasmodium falciparum* contains a novel repetitive sequence. *Mol. Biochem. Parasitol.* 28: 11-19.
5. Forsyth, K.P., Anders, R.F., Cattani, J.A. and Alpers, M.P. 1989. Small area variant in villages of Madang, Papua New Guinea. *m. J. Trop. Med. Hyg.* 40: 344-350.
6. Culvenor, J.G. and Crewther, P.E. 1990. S-antigen localization in the erythrocytic stages of *Plasmodium falciparum*. *J. Protozool.* 37: 59-65.
7. Perkins, M.E. and Rocco, L.J. 1990. Chemical crosslinking of *Plasmodium falciparum* glycoprotein, Pf200 (190-205 kDa), to the S-antigen at the merozoite surface. *Exp. Parasitol.* 70: 207-216.
8. Bickle, Q. and Coppel, R.L. 1993. A fourth family of the *Plasmodium falciparum* S-antigen. *Mol. Biochem. Parasitol.* 56: 141-150.
9. Bickle, Q., Anders, R.F., Day, K. and Coppel, R.L. 1994. The S-antigen of *Plasmodium falciparum*: repertoire and origin of diversity. *Mol. Biochem. Parasitol.* 61: 189-196.

SOURCE

S-antigen (PFS-3) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to the S-antigen of *Plasmodium falciparum* origin.

PRODUCT

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

APPLICATIONS

S-antigen (PFS-3) is recommended for detection of S-antigen of *P. falciparum* of *Plasmodium falciparum* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of S-antigen: 48 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.