ANTIBODY CHARACTERISTICS

Name: Anti-Glutathione-S-Transferase

Target Species: Schistosoma mansoni

Status: Available

Description: Sm-GST is a major target candidate in the development of vaccines against the human parasite S. mansoni. GST is also routinely used as a tag in the expression of recombinant proteins.

Type	Location	Purification	Tested Applications		Available
☐ Monoclonal	☐ Nuclear	☒ None	☒ Histology	☒ Flow	☒ Crude Ab
☒ Polyclonal	☐ Cytoplasm	☐ Am. Sulfate	☒ Cytology	☒ ELISA	☐ Purified Ab
☐ Engineered	☒ Membrane	☐ Chromato.	☒ Precipitation	☐ Therapy	☒ Immunogen
	☒ Secreted	☐ Affinity	☒ Blotting	☐ Other	☐ Hybridoma
		☐ Other			☐ Controls

Polyclonal Antibody against the Glutathione-S-Transferase from *S. mansoni*

Technology Reference
CX046

Contact
Gordon Comstock
Director, Medicine IP
312-996-7779 voice
312-413-0238 fax
GordonC@uic.edu

Inventor
K. Ramaswamy, Ph.D.

Fields
Parasitology
Immunology
Vaccines
Recombinant proteins

Key Words
S. mansoni
Schistosomiasis
Glutathione-S-Transferase
GST

Stage of Development
Purified antibody and immunogen available

Patent Status

Status
Seeking Licensing or Research Partner

Applications
- Diagnostic testing
- Vaccine development
- Quality control
- Research

The Invention

This invention consists of a rabbit polyclonal antibody that is specific for the 28kDa Glutathione-S-Transferase (GST) protein of the human parasite *S. mansoni*.

Applications

This antibody has been used in immuno precipitation, immuno blotting and ELISA assays. This antibody could also be used in immuno-diagnostic tests for *S. mansoni* infections and in the quality control of a developmental vaccine against *S. mansoni*. This antibody is also useful in detecting recombinant proteins that have been expressed with a GST tag.

Prior Art/Background

S. mansoni is one of three species of helminth parasite responsible for schistosomiasis, a debilitating liver disease that is endemic to many tropical regions. The free-swimming cercariae form of this human parasite penetrates the skin and migrates to the portal circulatory system of the liver where it matures. The mature parasite migrates to the intestine where it releases eggs into the feces. These eggs develop into the "miracidium" form that can infect certain species of snails that serve as intermediate hosts. Sporocysts produced by infected snails complete the cycle by maturing into cercariae. This parasite embolizes in hepatic venules with the formation of granulomas and portal fibrosis that lead to internal bleeding, hepatosplenomegaly and hepatic insufficiency.

Glutathione-S-Transferase (GST) is an antigenic protein that is expressed by *S. mansoni* parasites and is being developed as an antigen in vaccines against *S. mansoni*.

Benefits

- Binds to a highly antigenic protein on *S. mansoni*
- Binds to the GST tag that is widely used in the production of recombinant proteins

UIC The University of Illinois at Chicago	Polyclonal Antibody against the **Glutathione-S-Transferase from *S. mansoni*** **References**
References	Rao, KVN., He, YX., and Ramaswamy, K. (2003) Display of a 28-kDa glutathione S-transferase antigen of *Schistosoma mansoni* on the surface of filamentous phage and evaluation of its immunogenicity. **Clinical and Diagnostic Laboratory Immunology 10,** 536-541.
K. Ramaswamy	Associate Professor & Director of Tropical Diseases Research Department of Biomedical Sciences College of Medicine University of Illinois at Chicago – Rockford Campus Research Focus • Functional proteomics • Parasite Immunology • Allergy Reviewer for Grant Agencies and Journals • NIH vaccine study section • Journal of Biological Chemistry • Journal of Immunology • Trends in Parasitology • Trends in Molecular Medicine