



ANTIBODY CHARACTERISTICS

Name: Anti – Sm16

Target Species: Schistosoma mansoni

Status: Available

Description: Sm16 is an anti-inflammatory protein produced by a human parasite *S. mansoni*. This protein is secreted by the parasite to down regulate inflammation as it penetrates the skin. This antibody is being used in studies of inflammation.

<u>Type</u>	<u>Location</u>	<u>Purification</u>	<u>Tested Applications</u>		<u>Available</u>
<input type="checkbox"/> Monoclonal	<input type="checkbox"/> Nuclear	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Histology	<input checked="" type="checkbox"/> Flow	<input checked="" type="checkbox"/> Crude Ab
<input checked="" type="checkbox"/> Polyclonal	<input type="checkbox"/> Cytoplasm	<input checked="" type="checkbox"/> Am. Sulfate	<input checked="" type="checkbox"/> Cytology	<input checked="" type="checkbox"/> ELISA	<input type="checkbox"/> Purified Ab
<input type="checkbox"/> Engineered	<input type="checkbox"/> Membrane	<input type="checkbox"/> Chromato.	<input checked="" type="checkbox"/> Precipitation	<input type="checkbox"/> Therapy	<input type="checkbox"/> Immunogen
	<input checked="" type="checkbox"/> Secreted	<input type="checkbox"/> Affinity	<input checked="" type="checkbox"/> Blotting	<input type="checkbox"/> Other	<input type="checkbox"/> Hybridoma
		<input type="checkbox"/> Other			<input type="checkbox"/> Controls



Polyclonal Antibody against the
Sm-16 Anti-inflammatory Protein of *S. mansoni*

Technology Reference
CX043

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Fields

Parasitology
Immunology
Inflammation

Key Words

S. mansoni
Schistosomiasis
Inflammation

Stage of Development

Purified antibody and
immunogen available

Patent Status

Status

Seeking Licensing Partner

Applications

- Diagnostic testing
- Research

The Invention

This invention consists of a rabbit polyclonal antibody that is specific for the anti-inflammatory protein Sm-16 that is produced by the human parasite *S. mansoni*.

Applications

This antibody has been used in immuno-precipitation, immuno-blotting and ELISA applications. The antibody could be used for detecting and quantitating levels of Sm-16 during infection by *S. mansoni*, and in the cytological and histological examination of these specimens. This antibody may also be useful in the study of inflammatory responses and the mechanism by which *S. mansoni* penetrates the skin.

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.

Sm16 is an anti-inflammatory protein that is secreted by *S. mansoni* to down regulate inflammation in the skin during infection. This protein is expected to have clinical utility as an anti-inflammatory. The University of Illinois has a patent on the clinical applications of Sm16 (US Patent # 06372219 issued on April 16, 2002).

Benefits

- Binds to a unique protein that suppresses inflammatory responses in the skin.



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References

Rao, KVN., and Ramaswamy, K. (2000) Cloning and expression of a gene encoding Sm16, an anti-inflammatory protein from *Schistosoma mansoni*. **Molecular and Biochemical Parasitology** **108**, 101-108.

Rao, KVN., He, Y.X and Ramaswamy, K. (2002) Suppression of cutaneous inflammation by intradermal gene delivery. **Gene Therapy** **9**, 38-45.

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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