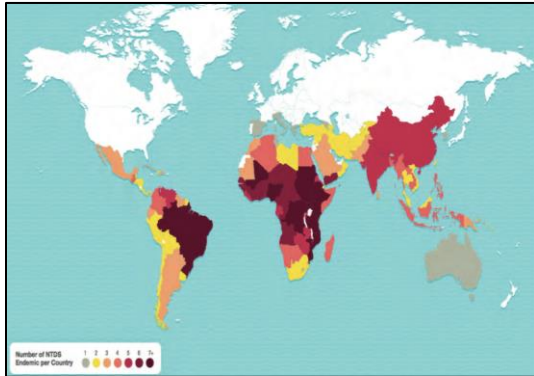


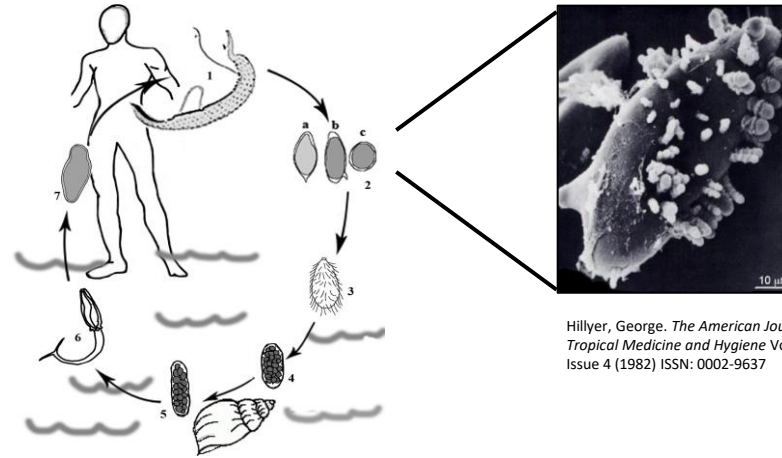
DetectSchisto: characterization of SmVAL13 as a diagnostic biomarker

- Schistosomiasis is an acute and chronic parasitic disease caused by blood flukes (trematode worms) of the genus *Schistosoma*.
- *Schistosoma mansoni* (*S. mansoni*) is the most prevalent species in Africa, the Middle East, the Caribbean, Brazil, Venezuela and Suriname.
- Some of the eggs are passed out of the body in the faeces or urine to continue the parasite's lifecycle. Others become trapped in body tissues, causing immune reactions and progressive damage to organs.

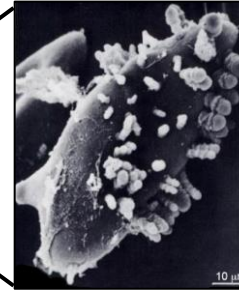


World Health Organization, https://apps.who.int/neglected_diseases/ntddata/sch/sch.html

- › High infection rate: 20 million new cases /year
- › Low mortality rate: 140 thousand /year
- › High morbidity rate: 2 million DALY
- › WHO program for MDA: 5 billion doses of praziquantel /year



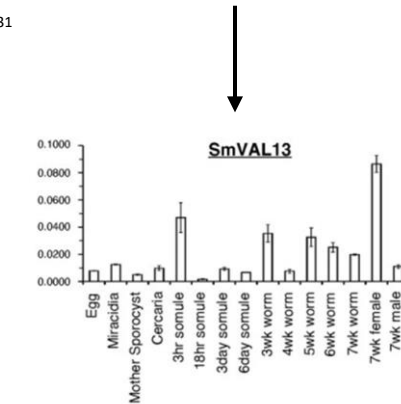
A.E. Miele: Schistosomiasis: Epidemiology, Diagnosis and Treatment: Nova Biomedical, Nova Publishers. ISBN: 978-1-63117-186-4



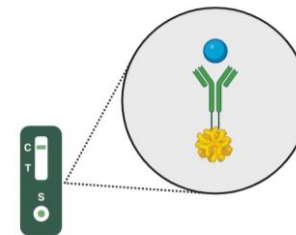
Hillyer, George. *The American Journal of Tropical Medicine and Hygiene* Volume: 31 Issue 4 (1982) ISSN: 0002-9637

Which molecules are secreted by the eggs?

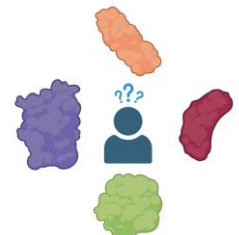
- Glycoproteins: CCA and ACA
- Immune modulators: IL6, IL10
- Estrogen-like hormones
- Micro-Exon Gene proteins
- **Venom allergen-like surface antigens: VAL4, VAL13, VAL11, VAL6**



Chalmers, Iain W et al. *BMC genomics* vol. 9 89. 23 Feb. 2008, doi:10.1186/1471-2164-9-89



Lateral flow assay development



Structure determination