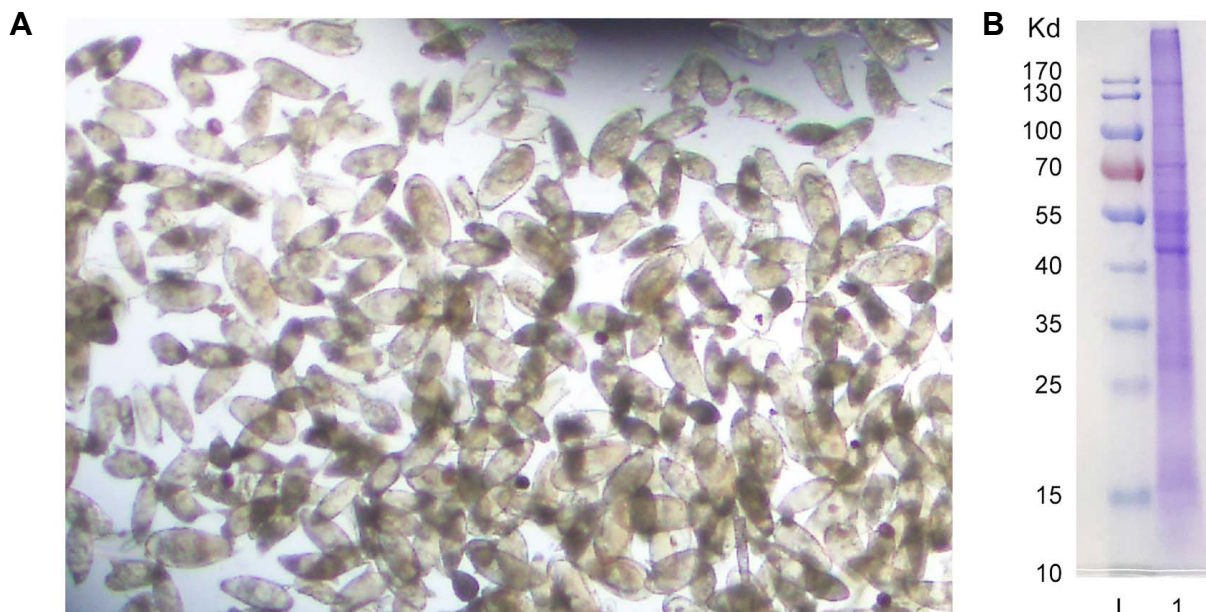


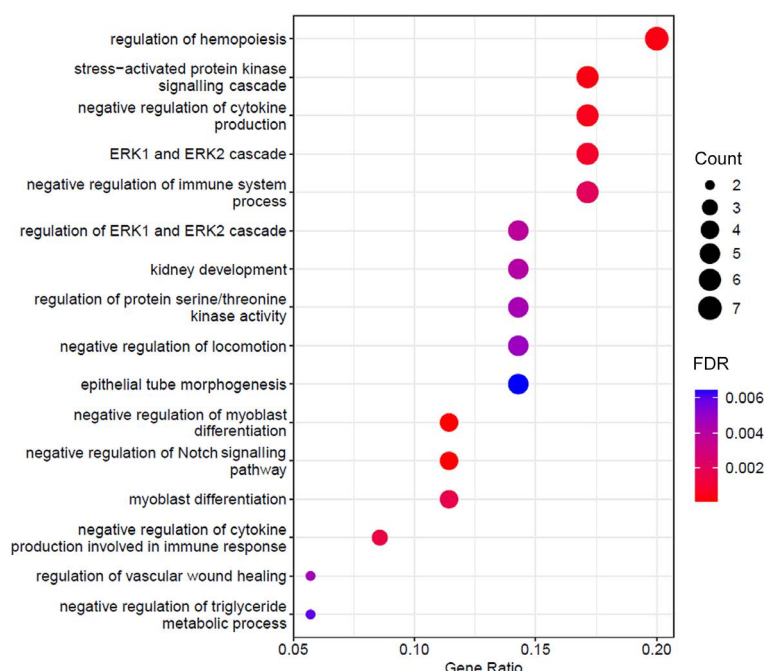
Short Note

OPEN ACCESS

Mu Y., Yan K., McManus D.P., Nguyen W., Rawle D.J., Roberts J.A., Jones M.K., Cai P. 2025: Marginal cytokine modulation by *Schistosoma mansoni* soluble egg antigen in SARS-CoV-2-infected K18-hACE2 mice. Folia Parasitol. 72: 019.



Supplementary Fig. S1. A – viable *S. mansoni* eggs were isolated from the liver tissues of infected mice at 7 weeks post infection; B – SmSEA was separated on a 12% Mini-PROTEAN TGX precast gel and stained with Coomassie Brilliant Blue; L: protein ladder; Lane 1, SmSEA.



Supplementary Fig. S2. Top 16 significantly enriched Gene Ontology (GO) terms from sub-ontology Biological Process based on the splenic differentially expressed genes (DEGs) identified between SARS-CoV-2-infected mice treated with SmSEA and those treated with PBS. Count: number of DEGs annotated in enriched GO terms. FDR: false discovery rate. The top 16 enriched terms were selected based on the FDR then sorted according to the gene-ratio, which is the count divided by the total number of DEGs with annotations across the entire collection of GO terms in org.Mm.eg.db for mouse.

Table S1. Upstream regulators predicted by IPA core analysis of differentially expressed genes (DEGs) identified in the spleens of SARS-CoV-2 infected mice treated with SmSEA vs. PBS.

[Link: www.researchgate.net/publication/392441547_Supplementary_Table_S1](http://www.researchgate.net/publication/392441547_Supplementary_Table_S1).

Table S2. Differentially expressed splenic genes identified between SARS-CoV-2-infected mice treated with SmSEA vs. hiSmSEA using edgeR.

Ensembl gene ID	Gene name	logFC	logCPM	P value	FDR
ENSMUSG00000024190	<i>Dusp1</i>	1.029537	5.333836	0.000000030	0.000227055
ENSMUSG00000020108	<i>Ddit4</i>	0.910027	6.648323	0.000002290	0.006354564
ENSMUSG00000045382	<i>Cxcr4</i>	0.784433	6.98207	0.000002413	0.006354564
ENSMUSG00000024042	<i>Sik</i>	0.640555	6.441928	0.000010585	0.017793348
ENSMUSG00000045817	<i>Zfp3612</i>	0.586565	7.721205	0.000025128	0.031126127
ENSMUSG00000050075	<i>Gpr171</i>	0.404396	5.425038	0.000002548	0.006354564
ENSMUSG00000032089	<i>Il10ra</i>	0.297222	7.796179	0.000019852	0.027007809
ENSMUSG00000014773	<i>Dll1</i>	0.296078	6.007806	0.000037550	0.036216034
ENSMUSG00000061313	<i>Ddhd2</i>	0.190481	5.236165	0.000063981	0.047873471
ENSMUSG00000025234	<i>Arlh1</i>	-0.148297	7.298018	0.000053553	0.047142467
ENSMUSG00000026014	<i>Raph1</i>	-0.243199	5.523687	0.000029119	0.031126127
ENSMUSG00000014039	<i>Prdm15</i>	-0.262118	5.063984	0.000062222	0.047873471
ENSMUSG00000037926	<i>Ssh2</i>	-0.336975	7.556827	0.000058854	0.047873471
ENSMUSG00000007872	<i>Id3</i>	-0.361212	5.731119	0.000068309	0.048678331
ENSMUSG00000027508	<i>Pag1</i>	-0.378493	7.400824	0.000013065	0.019551127
ENSMUSG00000034271	<i>Jdp2</i>	-0.413707	3.956427	0.000038721	0.036216034
ENSMUSG00000052794	<i>1700030K09Rik</i>	-0.434679	4.455335	0.000010701	0.017793348
ENSMUSG00000056313	<i>Tcim</i>	-0.503008	4.686765	0.000007456	0.015939222
ENSMUSG00000030671	<i>Pde3b</i>	-0.634735	5.866536	0.000000002	0.000024568
ENSMUSG00000025316	<i>Banp</i>	-0.641949	5.182863	0.000000137	0.000684225
ENSMUSG00000032511	<i>Scn5a</i>	-0.788201	2.810092	0.000027192	0.031126127

Abbreviations: FC – fold change; CPM – counts per million; FDR – false discovery rate.

Table S3. Ingenuity Pathway Analysis and key cytokine from Upstream Regulators Analysis for 21 differentially expressed splenic genes identified between SARS-CoV-2 infected mice treated with SmSEA vs. hiSmSEA.

Ingenuity canonical pathways	Ratio	z-score	FDR	Molecules		
IL-10 signalling	0.0195	NA	0.022387211	DDIT4,DUSP1,IL10RA		
Th1 and Th2 activation pathway	0.0174	NA	0.022387211	CXCR4,DLL1,IL10RA		
Upstream regulator	Molecule type	Predicted activation state	Activation z-score	p-value of overlap	FDR	Target molecules in dataset
IL4	cytokine	Activated	2	0.019100000	0.054000000	CXCR4,DDIT4,ID3,IL10RA
TNF	cytokine		1.475	0.006800000	0.032700000	CXCR4,DDIT4,DUSP1,ID3,IL10RA,TCIM
IL1B	cytokine		1.195	0.000032500	0.002340000	CXCR4,DDIT4,DLL1,DUSP1,ID3,IL10RA,TCIM
IFNG	cytokine		0.568	0.008130000	0.035300000	CXCR4,DLL1,DUSP1,IL10RA,PDE3B

Abbreviations: FDR – false discovery rate.