

**Supplementary table 1:** Description of both latent and manifest variables used for the model.

Latent variable	Manifest variable	Descriptive statistics <sup>1</sup>
Fasting	Categorical variable with two modalities: 0 = not food deprivation 1 = food deprivation	$0.333 \pm 0.475$ (0 - 1)
Heat-killed <i>M. manresensis</i> (hkMm)	Categorical variable with two modalities: 0 = mannitol treatment 1 = hkMm treatment	$0.5 \pm 0.504$ (0 - 1)
Helminths	<i>Heligmosomoides polygyrus</i>	$10.00 \pm 18.394$ (0.00 - 89.00)
	<i>Trichuris muris</i>	$6.367 \pm 7.474$ (0.00 - 30.000)
Cortisol	Cortisol	$1.289 \pm 0.544$ (0.408 - 2.870)
Body condition	Liver weight	$1.449 \pm 0.274$ (0.881 - 1.995)
	Kidneys weight	$0.460 \pm 0.153$ (0.037 - 0.818)
Anti-oxidants	FRAP	$0.949 \pm 0.155$ (0.571 - 1.353)
	TIOL	$0.315 \pm 0.077$ (0.129 - 0.452)
	CUPRAC	$0.539 \pm 0.072$ (0.369 - 0.719)
	TEAC2	$1.083 \pm 0.053$ (0.946 - 1.215)
	TEAC1	$0.737 \pm 0.087$ (0.525 - 0.943)
	PON1	$10.214 \pm 1.569$ (7.230 - 12.930)
Oxidants	ROS	$363.0 \pm 78.063$ (219.0 - 582.0)
	AOPP	$128.64 \pm 46.495$ (37.80 - 293.40)
Proliferative lesions	IL-10	$31.03 \pm 24.357$ (10.16 - 125.35)
	IL-12(p40)	$21.29 \pm 9.487$ (4.26 - 55.42)
	IFN- $\gamma$	$101.22 \pm 51.037$ (46.83 - 361.52)
Exudative lesions	IL-1 $\beta$	$202.78 \pm 148.678$ (27.00 - 813.98)
	IL-6	$1202.9 \pm 1181.824$ (124.0 - 6417.7)
	TNF- $\alpha$	$103.94 \pm 63.827$ (4.98 - 331.91)
	CXCL5	$302.7 \pm 123.245$ (107.4 - 678.0)
	IL-17	$49.32 \pm 57.635$ (7.12 - 382.12)
	CXCL1	$3252.5 \pm 1986.255$ (558.5 - 8580.7)
	ADA	$18.25 \pm 4.315$ (11.78 - 28.27)
	Haptoglobin	$1.921 \pm 0.668$ (0.430 - 3.070)
Bacillary load	Lung	$14064125 \pm 13072975$ (2400000 - 73000000)
	Spleen	$4061116 \pm 3546899$ (560000 - 18000000)

<sup>1</sup>Mean  $\pm$  SD (Range).

ADA: adenosine deaminase, AOPP: advanced oxidation protein products, CUPRAC: cupric reducing antioxidant capacity, FRAP: ferric reducing antioxidant power, hkMm: heat-killed *M. manresensis*, PON1: paraoxonase 1, ROS: reactive oxygen species, TEAC: trolox equivalent antioxidant capacity.