

**Supplementary Table 4.** Stage 4: Pathogen challenge

Stage 4: Pathogen challenge			Tissue	Model	References
Transcriptional regulators	Notch↑	IFN-γ	Lung	Human/Influenza	(72)
	Hobit↑	Granzyme B	Liver	LCMV	(158)
	Bhlhe↑	Metabolism, IFN-γ, GzMB, TNF	Lung	Influenza	(164)
			Intestinal IEL	LCMV	(43)
Immune effector molecules	IFN- γ	Lung	Human/Influenza	(72)	
				Influenza	(156)
				Healthy human tissue	(73)
		Skin	HSV	(82,83)	
			Human	(24)	
	TNF-α	Lung	LM	(92)	
			LCMV	(155)	
		Lung	Human/Influenza	(72)	
	IL-2	Lung	Human/Influenza	(72)	
			Healthy human tissue	(73)	
		Liver	Human	(157)	
	Granzyme B	Intestinal IEL	LCMV	(71)	
		Liver	LCMV	(158)	
		Brain	LCMV	(155)	
		Skin	Human	(24)	
	CD49a	Skin	HSV	(24,83)	

Immune inhibitors	PD-1	Lung	Human/Influenza	(72)
			Influenza	(128)
	CD101	Intestinal IEL	LCMV	(43)
	CTLA4	Lung	Human/Influenza	(72)
		Intestinal IEL	LCMV	(43)
	LAG3	Lung	Human/Influenza	(72)
		Intestinal IEL	LCMV	(43)
	BTLA, SPRY1, A2AR	Lung	Human/Influenza	(72)
	<i>Tigit</i>	Intestinal IEL	LCMV	(43)

Table abbreviations: ↑ upregulated; LM: listeria monocytogenes; LCMV: lymphocytic choriomeningitis virus; HSV: herpes simplex virus; CPXV: cowpox virus; IEL: Intraepithelial lymphocytes; GzmB: Granzyme B