



Clinically relevant multidrug transporters are regulated by different microRNAs along the human intestine

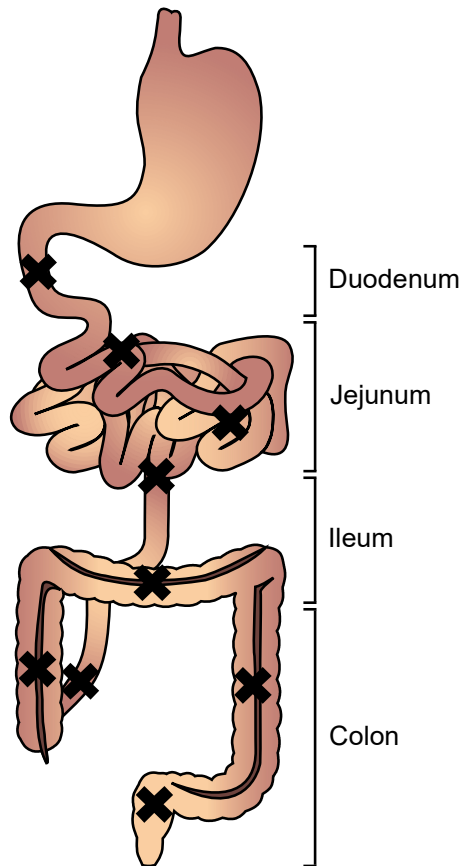
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Site-specific mRNA and protein levels of transporters along the human intestine

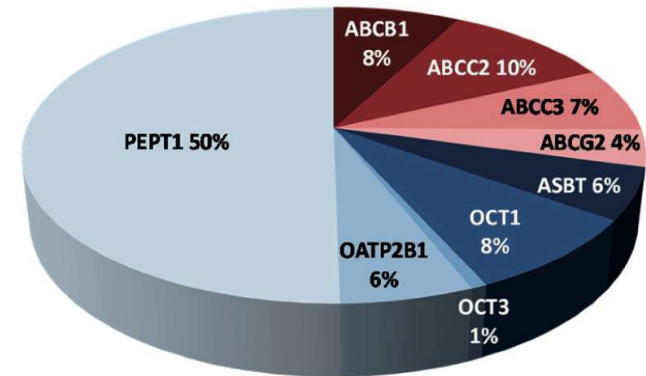
Localisation of biopsies from organ donors



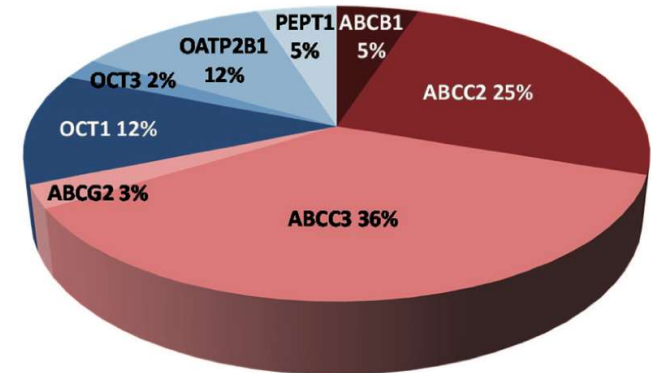
✕ positions of tissue biopsies

targeted proteomics

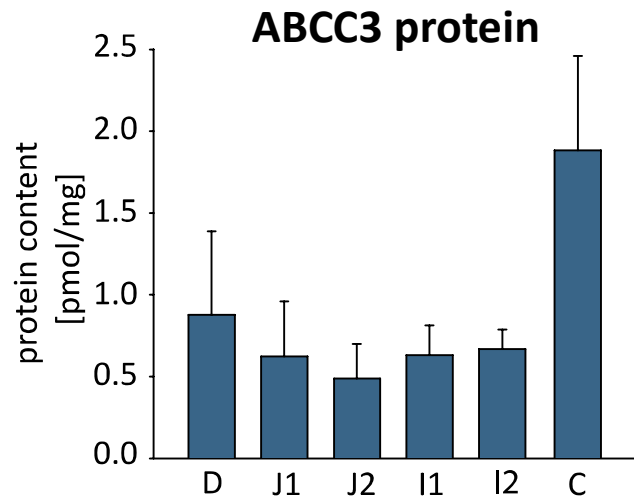
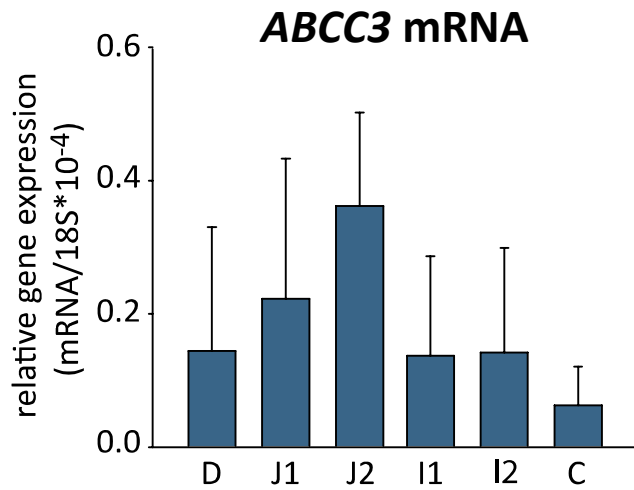
small intestine



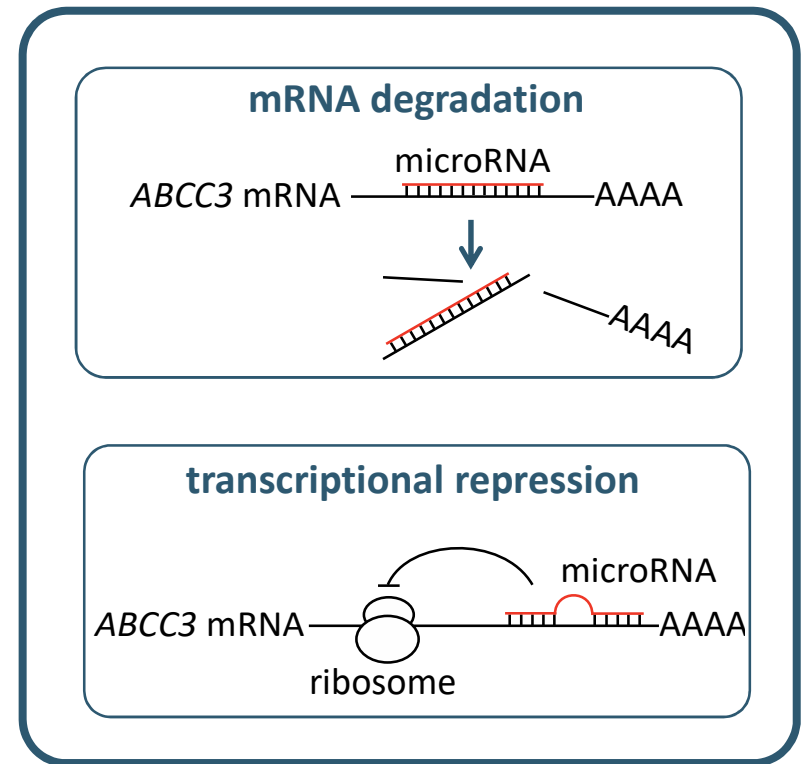
colon



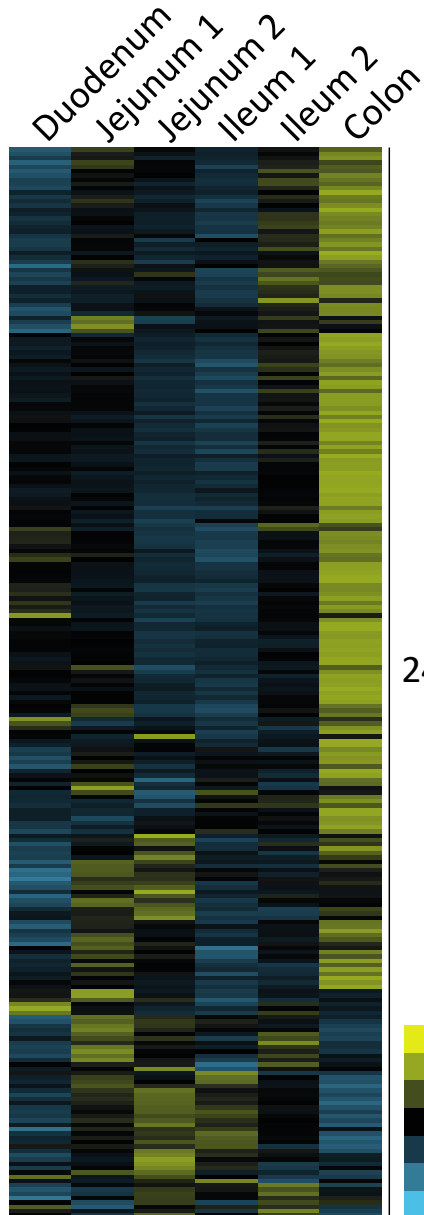
Discrepancy between mRNA and protein levels



Role of microRNAs?



Site-specific microRNA expression along the human intestine



248 microRNAs



Correlation microRNA/protein + *in silico*-target prediction

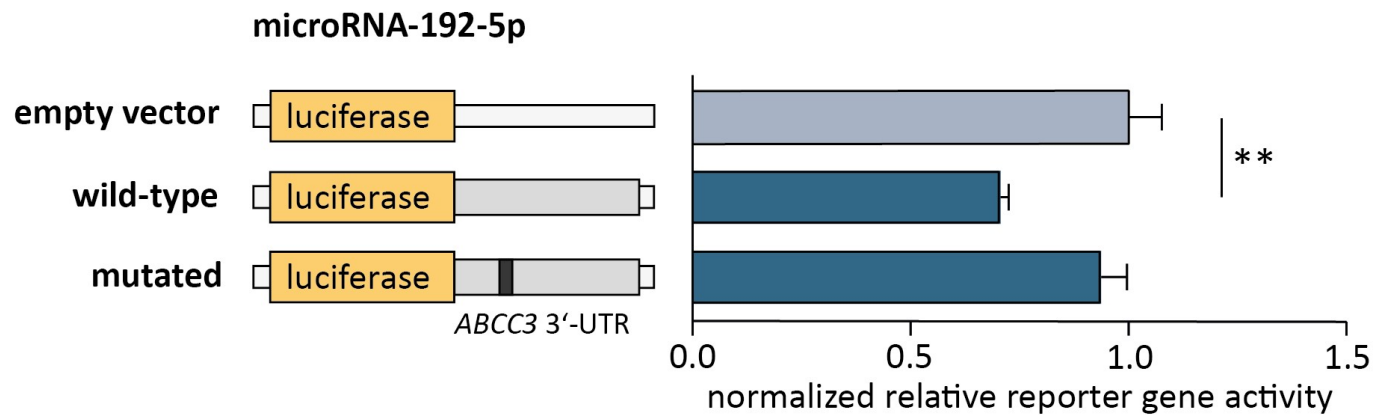
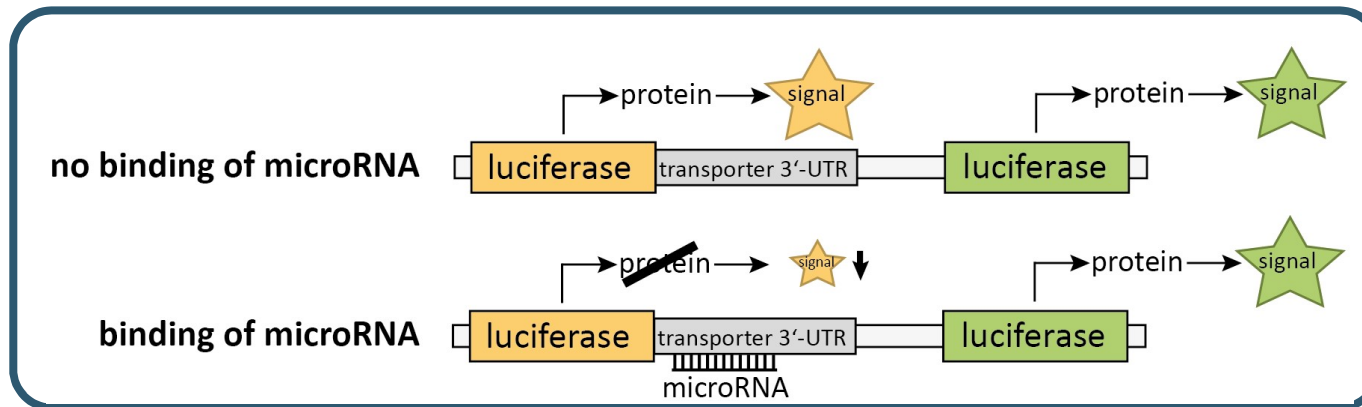
correlation coefficients

	ABCB1	ABCC2	ABCC3	ABCG2	PEPT1
mir-27a-3p	-0.21	n.s.	n.s.	-0.37*	-0.50**
miR-100-5p	n.s.	n.s.	n.s.	-0.44**	-0.48**
miR-192-5p	n.s.	n.s.	-0.52**	n.s.	-0.48**
miR-193a-3p	n.s.	n.s.	n.s.	-0.37*	-0.49**
miR-193b-3p	n.s.	n.s.	n.s.	-0.35*	-0.53**
miR-215-3p	n.s.	n.s.	-0.63**	n.s.	-0.55**
miR-365a-3p	n.s.	n.s.	n.s.	-0.40*	-0.48**
miR-409-3p	-0.41*	n.s.	n.s.	-0.48**	-0.36**
miR-766-3p	-0.34*	n.s.	n.s.	-0.47**	-0.48**

Pearson correlation: p-value * < 0.05, ** < 0.01; n.s. = not significant

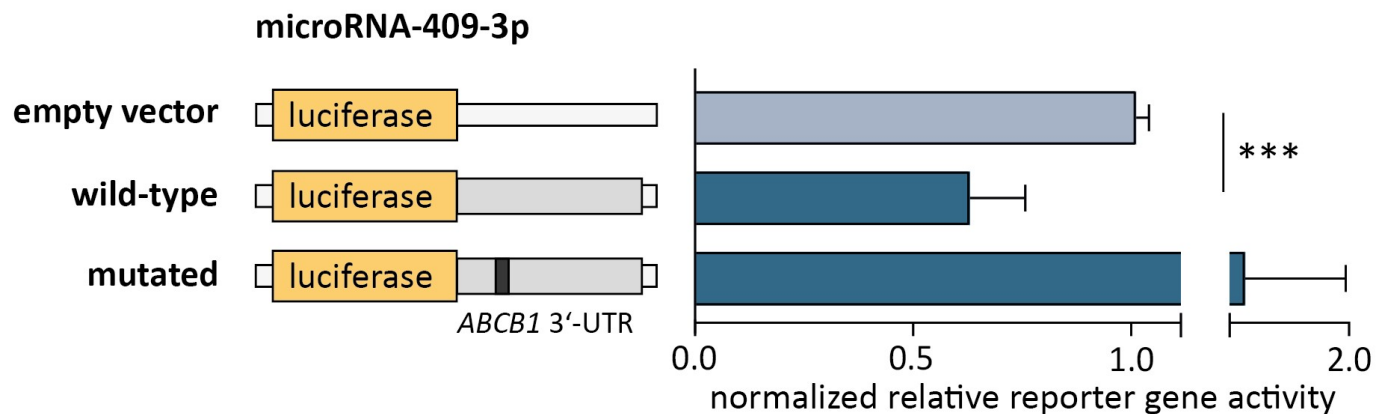
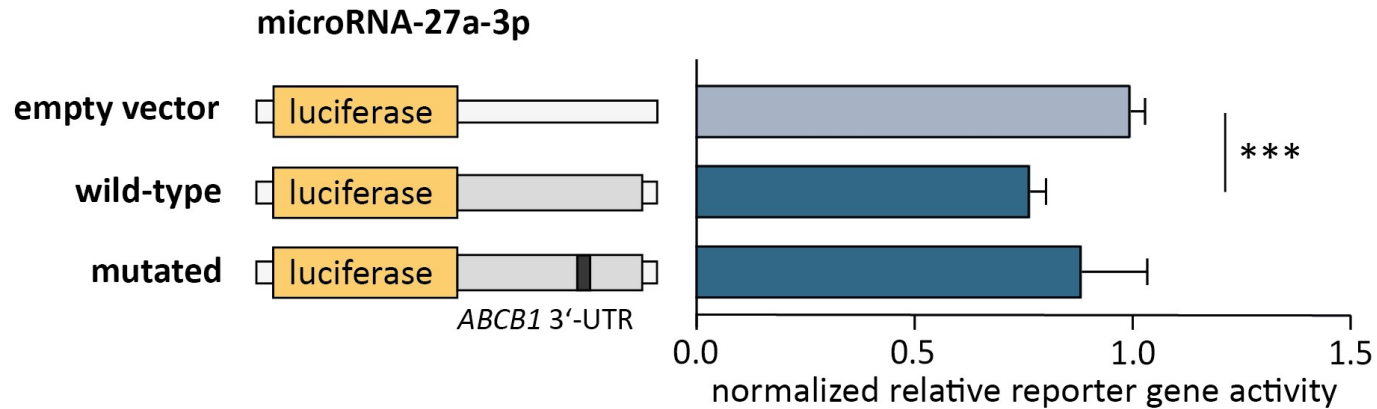
Verification of miR-192-5p / ABCC3 3'-UTR interaction

Principle of reporter gene assay

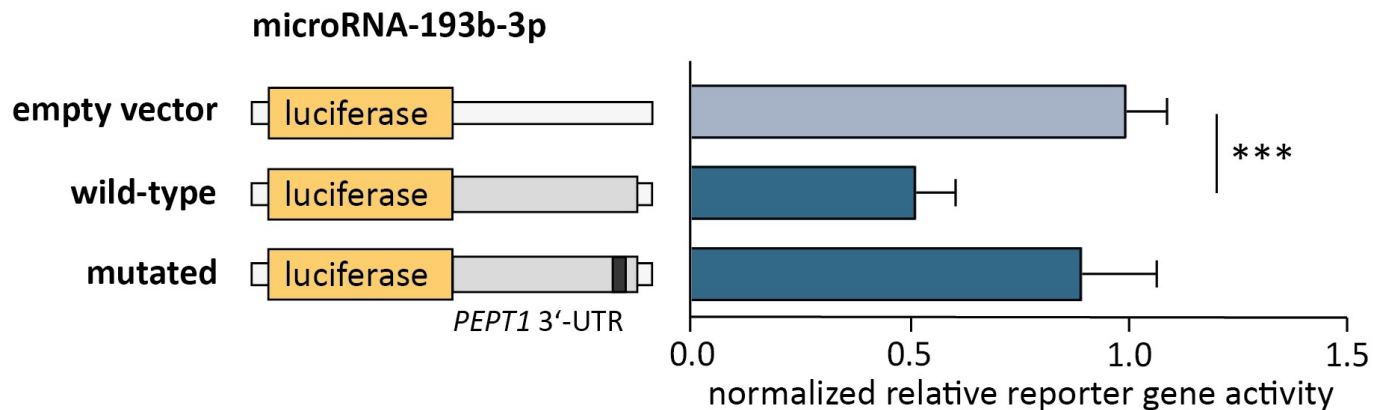
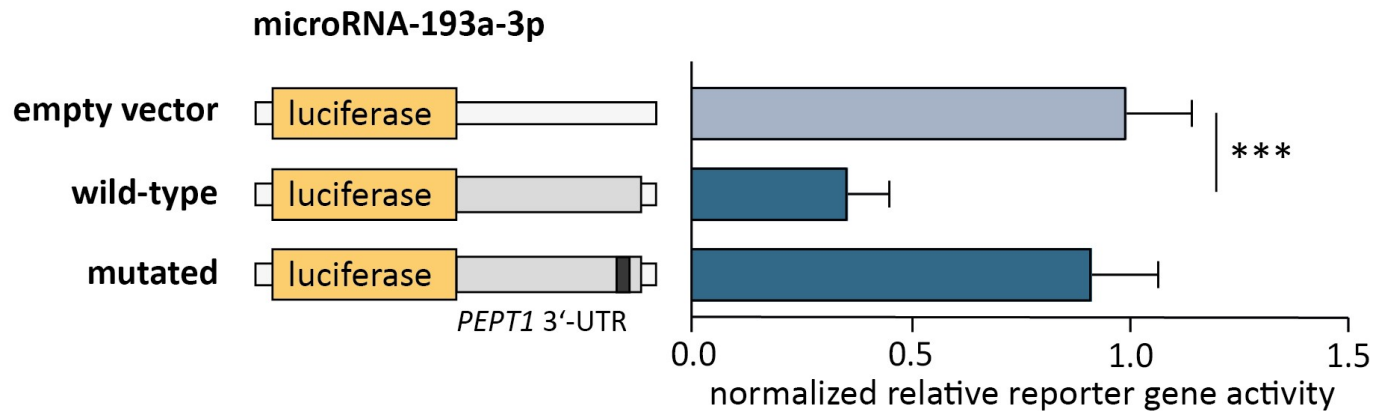
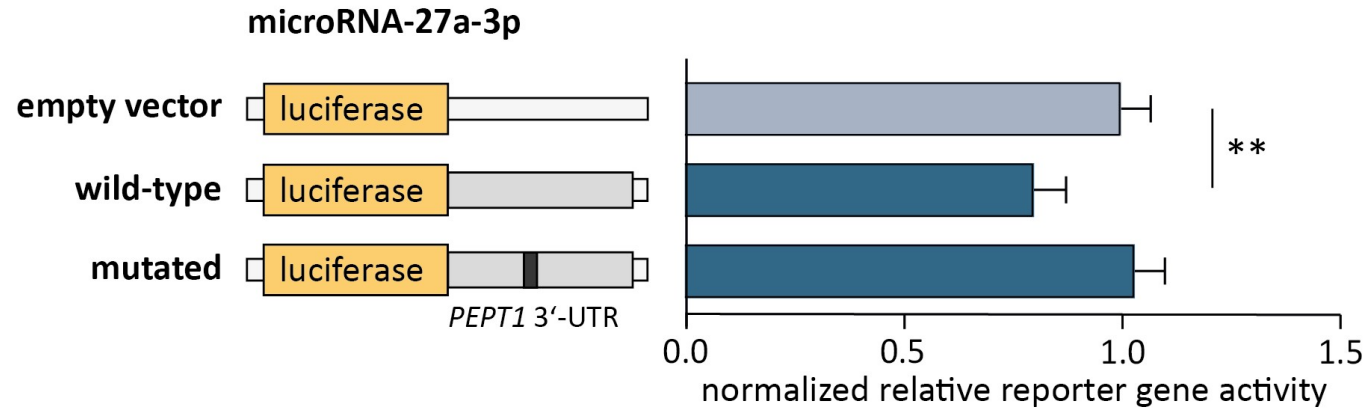


Mann-Whitney-U test, p ** < 0.01

Verification of miR-27a-3p / miR-409-3p / *ABCB1* 3'-UTR interactions

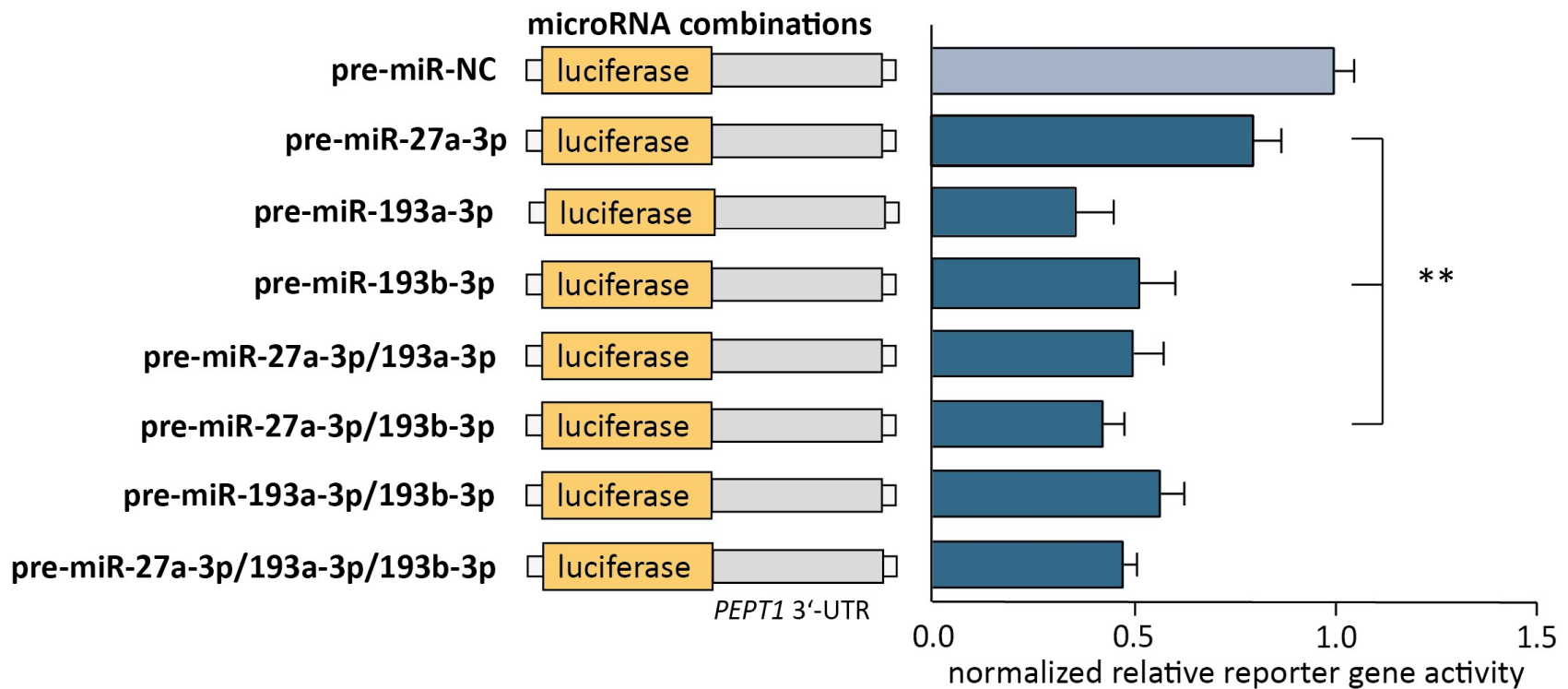


Verification of miR-27a-3p / miR-193a-3p / miR-193b-3p / *PEPT1* (*SLC15A1*) 3'-UTR interactions



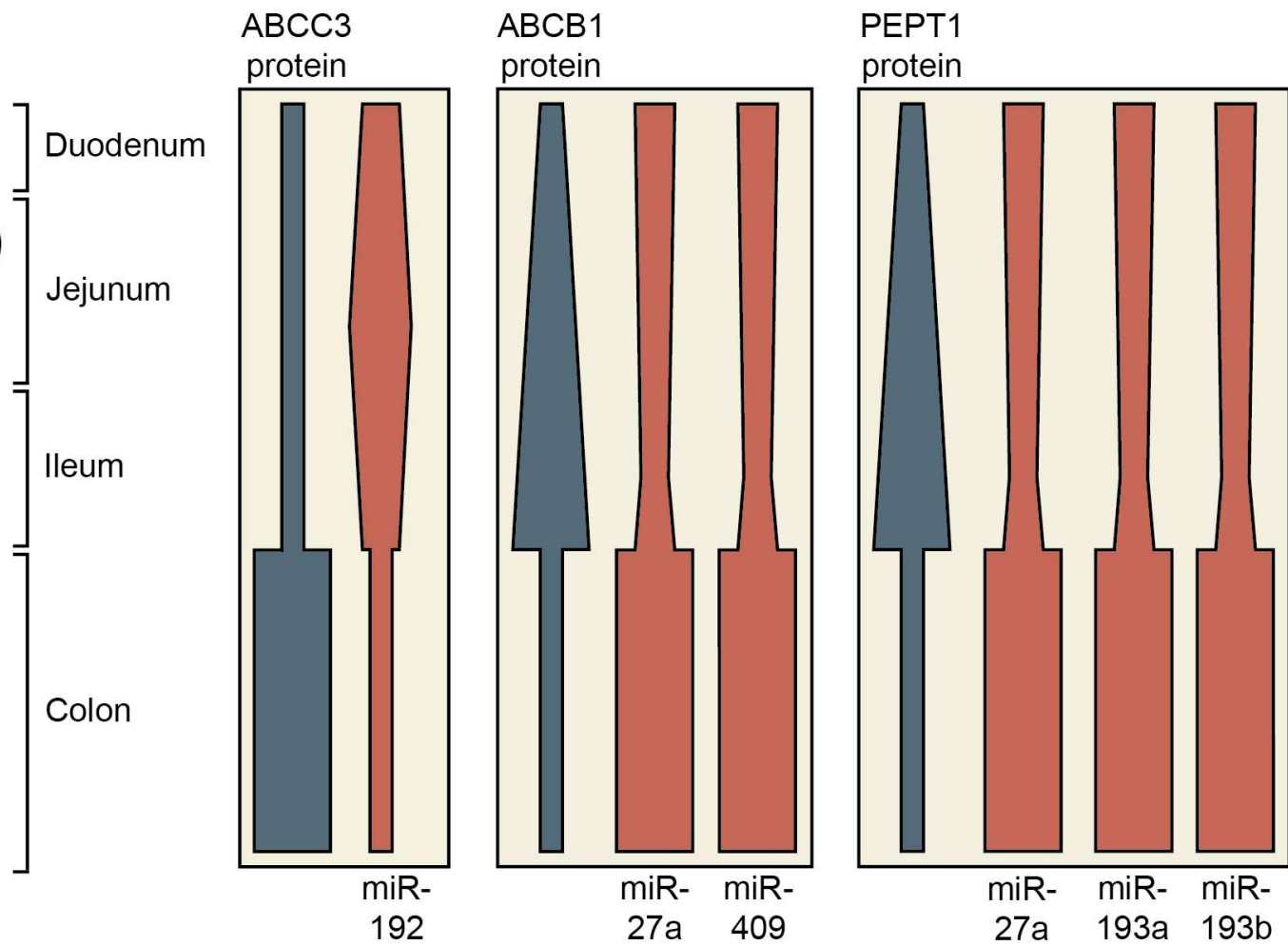
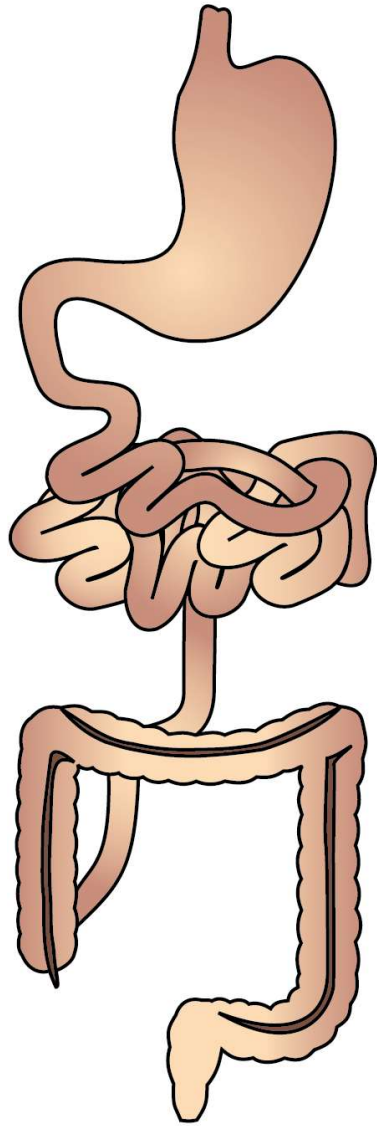
Mann-Whitney-U test,
 $p^{***} < 0.001$

Combined effects of multiple microRNAs on *PEPT1* (*SLC15A1*) 3'-UTR



Mann-Whitney-U test, p ** < 0.01

Summary



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Inflammation at Interfaces

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