

**Table S1: Composition of PolyPEPI1018 vaccine and predicted responses rates in *in silico* model population.** PolyPEPI1018 comprises six 30-mer peptides by joining two 15-mers derived from seven tumor-associated antigens (TAAs) frequently expressed in mCRC.

Vaccine peptide <sup>a</sup>	Source protein (TAA) <sup>b</sup>	Core HLA class I epitopes (9mers) <sup>c</sup>	15mer fragments and core HLA class I epitopes (9mers) <sup>#</sup>	Predicted <i>in silico</i> response rate <sup>d</sup>		
				HLA class I PEPI	HLA class II PEPI	
CRC_P1	TSP50	<b><u>P1A</u></b>	PST <b><u>TTMETQFPV</u></b> SEGG	53%	88%	
	TSP50	<b><u>P1B</u></b>	SR <b><u>YRAQRFWSW</u></b> VGQA			
CRC_P2	EPCAM	<b><u>P2A</u></b>	VRT <b><u>YWIIIEI</u></b> LKHKAR	57%	100%	
	SURVIVIN	<b><u>P2B</u></b>	TAKKVR <b><u>RAIEQLAAM</u></b>			
CRC_P3	EPCAM	<b><u>P3A</u></b>	<b><u>YVDEKAPEF</u></b> SMQGLK	43%	95%	
	MAGE-A8	<b><u>P3B</u></b>	DE <b><u>KVAELVRFLL</u></b> RKY			
CRC_P6	CAGE1	<b><u>P6A</u></b>	LAS <b><u>KMHSLALM</u></b> VGL	58%	99%	
	SURVIVIN	<b><u>P6B</u></b>	KDHRI <b><u>STFKNWPFL</u></b> E			
CRC_P7	CAGE1	<b><u>P7A</u></b>	<b><u>PKSMTMPAL</u></b> FKENR	57%	87%	
	SPAG9	<b><u>P7B</u></b>	SGAV <b><u>MSERVSL</u></b> AGS			
CRC_P8	FBXO39	<b><u>P8A</u></b>	K <b><u>FMNPYNAVL</u></b> TKKFQ	90%	100%	
	FBXO39	<b><u>P8B</u></b>	KVN <b><u>FFFERIMKY</u></b> ERL			
				≥ 1 PEPI	98 %	100 %
				≥ 2 PEPIs	91 %	100 %

<sup>a</sup>CRC\_P1 and CRC\_P2 are included in mixture#1, the remaining peptides form mixture#2 of PolyPEPI1018.

<sup>b</sup>Uniprot(1) IDs of the target proteins: EPCAM, P16422; SURVIVIN, O15392; TSP50, Q9UI38; FBXO39, Q8N4B4; SPAG9, O60271; CAGE1, Q8TC20; MAGE-A8, P43361

<sup>c</sup>30mer's two core HLA class I epitopes/hotspots are **Bold, underlined** (also used as 9mer test peptides in immunoassays).

<sup>d</sup>Percentage of subjects in the *in silico* model population who are able to bind one or more epitopes of the vaccine peptides with at least 3 autologous HLA alleles (Personal EPItope, PEPI).

### Supplementary references

1. Consortium TU. UniProt: a worldwide hub of protein knowledge. *Nucleic Acids Res* 2018;**47**(D1):D506-D15 doi 10.1093/nar/gky1049 %J.