

Supplementary Table - 1 : List of peptides from LmrP datasets wild-type (n=3) and mutant D68N (n=1) classified as transmembranous, including TMH number, peptide sequence, start and end positions, and R.F.U. value at 15 min. The last column, “Dynamics”, classifies a peptide as flexible when its R.F.U. is above the mean R.F.U. of the extramembranous peptides dataset for at least three biological replicates.

TMH	Sequence	Start	End	LmrP WT	LmrP WT	LmrP WT	LmrP D68N	Dynamics
				R.F.U. (15 min - %) Replicat 1 (Threshold : 29.69%)	R.F.U. (15 min - %) Replicat 2 (Threshold : 31.96%)	R.F.U. (15 min - %) Replicat 3 (Threshold : 20.07%)	R.F.U. (15 min - %) (Threshold : 29.29%)	
1	LRLGIVF	14	20	/	21.95%	6.30%	/	
	LRLGIVFL	14	21	8.27%	18.61%	4.20%	8.61%	
	GIVFLGA	17	23	2.48%	2.58%	1.97%	4.9%	
	GIVFLGAF	17	24	1.39%	/	2.03%	2.03%	
	GIVFLGAFSYGTVFSS	17	32	/	32.94%	18.85%	/	
	GAFSYGTVF	22	30	5.43%	8.14%	2.53%	2.69%	
	FSYGTVF	24	30	8.97%	10.59%	3.50%	5.13%	
2	GILLALSA	47	54	7.99%	/	/	7.26%	
	VFGTHIQL	78	85	0.69%	2.69%	0.00%	1.08%	
3	FGTHIQL	79	85	0.06%	/	/	0.77%	
	GTHIQLL	80	86	1.15%	/	/	0.49%	
	IQLLGAAL	83	90	-0.05%	1.15%	/	0.16%	
	LGAALAI	86	92	0.23%	/	0.65%	0.36%	
4	LISFGYN	111	117	0.15%	/	/	0.68%	
	ISFGYNF	112	118	0.01%	/	/	2.21%	
	FVITAGNA	118	125	7.19%	/	3.92%	15.73%	
	FVITAGNAM	118	126	10.87%	20.41%	7.91%	18.76%	
	VITAGNAM	119	126	14.56%	26.64%	10.91%	23.78%	
5	SVILGAAL	150	157	0.82%	3.90%	0.57%	1.42%	
	GAALGAW	154	160	8.56%	/	/	2.10%	
	MIFMGAN *	219	225	36.22%	41.86%	28.19%	38.25%	Flexible
7	IFMGAN	220	225	/	33.56%	24.95%	/	
	MGANIATT	222	229	/	/	36.04%	/	
	IIMQFDNF *	231	238	36.23%	35.33%	25.50%	29.54%	Flexible
8	MAIGMIF	301	307	11.44%	/	/	/	
	IAGIVY	319	324	/	52.42%	/	/	
10	IAGIVYTLGE *	319	328	37.91%	52.59%	27.15%	/	Flexible
	IVYTLGE *	322	328	31.15%	40.69%	25.66%	36.48%	Flexible
	IVYTLGEI *	322	329	32.45%	46.88%	/	33.76%	Flexible
	IVYTPSVQ *	329	336	35.64%	42.20%	29.75%	35.86%	Flexible
	IVYTPSVQTL	329	338	42.38%	/	28.09%	41.96%	Flexible
	IVYTPSVQTLGA	329	340	40.74%	/	28.45%	40.18%	Flexible
	IVYTPSVQTLGAD	329	341	36.68%	/	27.71%	35.98%	Flexible
11	AIKMPIASIL *	356	365	32.11%	38.91%	18.53%	32.41%	Flexible
	IKMPIASIL	357	365	7.58%	36.88%	/	/	
	MPIASIL	359	365	23.84%	/	16.98%	22.49%	
	ASILAGL	362	368	-0.93%	3.26%	/	0.79%	
12	ALTEVLA	386	392	9.29%	29.14%	1.37%	10.97%	

Supplementary Table - 2 : List of peptides from NorA WT datasets (n = 3) classified as extramembranous, including TMH number, peptide sequence, start and end positions, and R.F.U. value at 15 min. The last column, “Dynamics”, classifies a peptide as flexible when its R.F.U. is above the mean R.F.U. of the extramembranous peptides dataset for three biological replicates..

TMH	Sequence	Start	End	R.F.U. (15 min - %)	R.F.U. (15 min - %)	R.F.U. (15 min - %)	Dynamics
				Replicat 1 (Threshold : 34.67%)	Replicat 2 (Threshold : 34.64%)	Replicat 3 (Threshold : 28.76%)	
1	FLGIGL	16	21	/	6.15%	/	
	LVIPVL	21	26	/	/	14.58%	
	LLVAAF	42	47	/	2.07%	/	
2	FALSQM	47	52	17.26%	17.76%	/	
	FALSQMIISPF	47	59	39.58%	/	/	
	ALSQMIISPF	48	57	50.03%	/	/	
3	IISPFGGTL	53	61	37.69%	31.59%	17.35%	
	IGLIL	73	77	2.78%	/	/	
	FSVSE	78	82	16.39%	/	/	
4	FSVSEFM	78	84	/	19.76%	13.25%	
	MLSRVIGGM	95	103	35.27%	/	/	
	MLSRVIGGMSA	95	105	37.04%	/	/	
	MLSRVIGGMSAG	95	106	42.38%	37.45%	22.04%	
	LSRVIGGMSAG	96	106	47.46%	45.17%	26.91%	
	LSRVIGGMSAGMVMPGVTGL	96	115	/	/	26.78%	
	SRVIGGMSAG	97	106	47.87%	44.45%	28.18%	Flexible
	SRVIGGMSAGMVMPGVTGL	97	115	/	46.98%	28.09%	
	GMVMPGVTGL	106	115	51.02%	48.57%	40.04%	Flexible
	MVMPGVTGL	107	115	42.91%	45.33%	37.04%	Flexible
5	VMPGVTGL	108	115	48.24%	/	40.91%	
	MPGVTGL	109	115	/	/	40.95%	
	PGVTGL	110	115	61.96%	58.14%	47.89%	Flexible
	FGYMSA	129	134	42.37%	49.74%	42.86%	Flexible
	GYMSA	130	134	36.89%	/	/	
	IINSGF	135	140	36.73%	32.47%	18.59%	
	IINSGFILGPGIGGF	135	149	/	39.85%	20.80%	
	FILGPGIGGF	140	149	/	43.93%	17.77%	
	ILGPGIGGF	141	149	43.51%	40.53%	28.13%	Flexible
	GPGIGGF	143	149	/	40.74%	/	
6	FAGAL	161	165	23.64%	/	/	
	FAGALGIL	161	168	/	18.88%	18.26%	
	FAGALGILA	161	169	/	/	17.66%	
	GILAF	166	170	6.83%	/	/	
	AFIMS	169	173	7.24%	/	/	
7	FITPVIL	204	210	/	27.57%	26.25%	
	ITPVIL	205	210	15.29%	17.19%	/	
	LTLVLSFG	210	217	/	/	18.46%	
	TLVLSF	211	216	11.69%	6.96%	/	
	LVLSF	212	216	4.74%	/	/	
	LVLSFGLSA	212	220	/	/	22.19%	
	VLSFGLSA	213	220	/	/	23.66%	
	LSFGLSAF	214	221	46.19%	/	/	
8	SFGLSA	215	220	24.71%	/	/	
	SFGLSAF	215	221	/	30.23%	/	
	IAITGGGIF	242	250	43.79%	32.80%	16.87%	
	ITGGGIF	244	250	34.15%	/	/	
	GIFGALF	248	254	/	3.49%	/	
9	GIFGALFQ	248	255	40.18%	/	/	
	GIFGALFQ	248	255	40.18%	/	/	
	LTFIAWSSLYS	269	279	39.05%	/	/	
10	IAWSLL	272	277	/	18.00%	/	
	DMIRPAITNY	307	316	/	/	35.23%	
11	NSTFTSMGN	332	340	32.14%	/	/	
	TSMGNF	336	341	39.66%	34.68%	23.59%	
	TSMGNFIGPLIA	336	347	/	36.20%	24.50%	
	TSMGNFIGPLIAGAL	336	350	/	45.01%	27.75%	
	IGPLIA	342	347	41.48%	42.37%	32.86%	Flexible
12	IGPLIAGAL	342	350	/	46.76%	34.02%	
	MAIGVS	361	366	21.72%	/	/	
	MAIGVSL	361	367	21.56%	36.39%	46.73%	
	AIGVSL	362	367	18.76%	32.67%	47.30%	
	VSLAGVV	365	371	15.69%	25.67%	33.49%	
	AGVVIVL	368	374	1.77%	/	18.04%	
	VVIVL	370	374	6.43%	/	/	
EKQHRACL	376	383	21.84%	/	/		

Suppl. Table - 3 : List of peptides from QacA WT datasets (n = 3) classified as extramembranous, including TMH number, peptide sequence, start and end positions, and R.F.U. value at 15 min. The last column, “Dynamics”, classifies a peptide as flexible when its R.F.U. is above the mean R.F.U. of the extramembranous peptides dataset for three biological replicates.

TMH	Sequence	Start	End	R.F.U. (15 min - %)	R.F.U. (15 min - %)	R.F.U. (15 min - %)	Dynamics
				Replicat 1 (Threshold : 21.98%)	Replicat 2 (Threshold : 34.41%)	Replicat 3 (Threshold : 26.42%)	
1	FVVTMD	29	34	/	13.85%	/	
	FVVTMDM	29	35	17.82%	/	/	
	VVTMDM	30	35	/	29.33%	/	
2	IMALPEL	39	45	14.73%	28.65%	/	
	WIVDIYS	58	64	/	60.60%	54.93%	
	IVDIYS	59	64	/	49.61%	/	
	AGFIPLSA	68	76	8.72%	15.13%	/	
	FIPLSA	70	76	19.06%	17.48%	50.89%	
3	IPLSA	71	76	/	16.30%	/	
	LTGFALFG	88	95	22.00%	/	/	
	FGLVSL	94	99	5.34%	1.79%	/	
4	IRFLGIAGA	113	122	/	12.77%	/	
	LIMPTT	123	128	/	18.06%	/	
	LIMPTTL	123	129	14.22%	18.71%	/	
	LIMPTTLSM	123	131	/	22.23%	21.52%	
5	PTTLSM	126	131	/	0.75%	/	
	AVWSIA	147	152	/	20.52%	/	
	AVWSIASS	147	154	/	/	23.81%	
	AVWSIASSIG	147	156	/	27.41%	/	
	WSIASSIG	149	156	/	27.01%	21.35%	
	GAVFGPIGGAL	156	167	7.24%	/	/	
	GAVFGPIGGALL	156	168	7.57%	/	/	
	AVFGPIGGAL	157	167	4.02%	22.82%	/	
	VFGPIGGALL	158	168	0.51%	/	/	
	PIGGAL	161	167	/	16.38%	/	
6	LINV PFA	178	184	/	/	17.95%	
	LINV PFAIIA	178	187	5.00%	12.35%	/	
	INV PFAII	179	186	/	/	12.90%	
	AVVAGL	187	192	6.00%	4.50%	/	
	AVVAGLF	187	193	1.08%	/	/	
7	VVAGLFL	188	194	23.67%	/	/	
	SIAGMIG	216	222	9.83%	/	6.38%	
	EFSKEGL	229	235	53.25%	/	/	
9	FSAGTIAA	276	283	26.75%	/	/	
	FAMASVL	288	294	7.12%	9.04%	13.00%	
	FAMASVLL	288	295	6.84%	/	/	
	LLASQWL	295	301	/	/	23.19%	
	LASQWL	296	301	11.22%	/	/	
	ASQWLQV	297	303	29.45%	/	/	
	LYLLPMA	314	320	67.22%	/	/	
10	YLLPMAIG	315	322	/	/	27.39%	
	YLLPMAIGD	315	323	20.72%	/	20.44%	
	YLLPMAIGDMVF	315	326	/	/	/	
	IGDMVF	321	326	31.95%	/	/	
	IGDMVFAP	321	328	40.31%	/	/	
	MVFAPIAPGL	324	333	/	/	30.89%	
	VFAPAPIAPGL	325	333	20.86%	29.33%	32.57%	Flexible
	VFAPAPIAPGLA	325	334	/	/	32.12%	
	APIAPG	327	332	67.61%	/	/	
	APIAPGL	327	333	29.80%	37.44%	36.69%	Flexible
11	APIAPGLA	327	334	37.33%	36.52%	39.49%	Flexible
	PSGIGIAA	344	351	4.47%	20.28%	/	
	AAIGMF	350	355	28.28%	/	/	
12	ILVGAGM	374	380	/	/	5.13%	
	ILVGAGMASL	374	383	8.97%	7.67%	/	
	VGAGMASL	376	383	/	/	28.18%	
	AVASAL	384	389	14.97%	11.49%	/	
	AVASALIM	384	391	/	/	15.67%	
13	PTSKAGNAAA	395	404	/	39.10%	/	
	YDLGNVF	410	416	/	17.17%	14.27%	
	YDLGNVFG	410	417	5.41%	23.00%	16.74%	
	YDLGNVFGVAVL	410	421	6.66%	18.90%	15.70%	
	GSLSSM	422	427	/	24.43%	/	
	GSLSSML	422	428	15.25%	19.61%	/	
14	AVTSFNDA	474	481	12.97%	/	/	
	AVTSFNDAF	474	482	/	/	31.97%	
	FNDAFVA	478	484	38.80%	/	/	
	FVATAL	482	487	/	11.80%	/	
	VATALV	483	488	38.80%	/	/	
	TALVGGIIM	485	493	1.52%	/	/	
	ALVGGIIMII	486	495	/	10.10%	/	
	VGGIIM	488	493	1.15%	1.88%	/	
	GGIIMI	489	494	42.94%	/	/	
GGIIMII	489	495	50.15%	/	/		