

## Supplementary information, Table S5

Summary of C5a, BM213 and BM213 derivatives with modification on the P6 position induced G protein signaling and  $\beta$ -arrestin2 recruitment of C5aR1.

Agonist	EC <sub>50</sub> (nM)	E <sub>max</sub> (%C5a)	n	EC <sub>50</sub> ( $\mu$ M)	E <sub>max</sub> (%C5a)	n
	G protein signaling			$\beta$ -arrestin2 recruitment		
<b>C5a</b>	3.67±0.46	100	3	0.04±0.01	100	3
<b>BM213</b>	512.60±55.03	89.49±1.79	3	82.50±13.57	36.41±0.84	3
<b>BM213<sup>P6-V</sup></b>	35.53±4.23	84.95±1.72	3	2.59±0.11	96.92±3.09	3
<b>BM213<sup>P6-L</sup></b>	16.72±1.74	83.62±1.55	3	1.35±0.03	103.60±1.65	3
<b>BM213<sup>P6-I</sup></b>	52.87±4.06	84.79±1.14	3	2.39±0.08	97.48±2.16	3
<b>BM213<sup>P6-Nva</sup></b>	90.22±10.02	89.29±1.83	3	2.88±0.11	96.36±2.52	3
<b>BM213<sup>P6-M</sup></b>	159.00±15.77	93.14±1.68	3	6.99±0.38	86.83±2.48	3
<b>BM213<sup>P6-F</sup></b>	455.10±34.91	103.40±1.45	3	154.90±59.01	42.86±2.38	3
<b>BM213<sup>P6-HomoPro</sup></b>	92.37±13.30	90.18±2.40	3	12.80±0.46	87.39±1.91	3