

**Table S1: Data collection, processing, and refinement statistics**

	<b>NDP-<math>\alpha</math>-MSH-MC4R- G<math>\alpha\beta\gamma</math>-Nb35 complex</b> PDB entry 7PIV EMDB entry EMD-13454	<b>Setmelanotide-MC4R- G<math>\alpha\beta\gamma</math>-Nb35 complex</b> PDB entry 7PIU EMDB entry EMD-13453
Magnification	96000	
Voltage (kV)	300	
Electron exposure (e <sup>-</sup> /Å <sup>2</sup> )	40	
Defocus range (μm)	-0.8 / -2.0	
Pixel size (Å)	0.832	
Symmetry imposed	<i>C1</i>	
Micrographs used (total)	5403 (5618)	6979 (7583)
Initial particle image (no.)	2746119	4330500
Final particle images (no.)	221682	370621
Map resolution (Å)	2.86	2.58
FSC threshold	0.143	0.143
<b>Refinement</b>		
Initial model used (PDB entries)	6W25 / 3SN6	NDP-MC4R-G $\alpha\beta\gamma$ -Nb35
Model resolution (Å)	2.88	2.60
Model resolution range (Å)	233 – 2.88	233 – 2.60
Map sharpening B factor (Å <sup>2</sup> )	-99	-36
<b>Model composition</b>		
Total atoms	7814	7788
Water	115	88
Protein atoms	7696	7696
<b>B-factors (Å<sup>2</sup>)</b>		
Overall	69.37	48.11
R.m.s. deviations bond length (Å)	0.013	0.013
R.m.s. deviations bond angle (°)	1.705	1.707
<b>Validation</b>		
Molprobit score	1.54	1.42
Clash score	3.53	3.39
Poor rotamers (%)	0.86	0.97
<b>Ramachandran plot</b>		
Favoured (%)	94.09	95.77
Allowed (%)	5.70	4.13
Disallowed (%)	0.21	0.11