Target Name	Melanocortin-4 receptor
Target TTD ID	TTDC00072

Target Species	Human
Chemical Type	Trans-4-(4-chlorophenyl) pyrrolidine-3-carboxamides of piperazinecyclohexanes
Mode of Action	Binder
QSAR Model 1	$pK_i = -16.251(\pm4.498) + 47.465(\pm12.437)\text{MSD} + 12.540(\pm1.759)\text{BELe5} - 286.790(\pm64.271)\text{JGI9} - 0.125(\pm0.027)\text{RDF040m} - 0.908(\pm0.170)\text{N-075} - 0.213(\pm0.089)\text{RDF010e} + 0.439(\pm0.138)\text{C} - 008 + 0.462(\pm0.110)\text{C-026}$
Molecular Descriptor	Access the following web-servers to compute molecular descriptors: **MoDel** and **e-dragon** MSD is one of the topological descriptors, and it is the mean square distance index also called Balaban; BELe5 is the lowest eigenvalue n. 5 of Burden matrix/weighted by atomic Sanderson electro-negativities; JGI9 is the mean topological charge index of order 9; DF040m and RDF010e belong to the radial distribution function (RDF) descriptors; In these descriptors (RDF040m and RDF010e) weighting schemes are the atomic masses and the atomic Sanderson electro-negativities respectively, that show the mass and the electro-negativity of the molecules play a main role in these descriptors; (C-008, C-026, N-075) belong to the atom-centred fragment descriptors that describe each atom by its own atom type and the bond types and atom types of its first neighbours; The C-008, C-026 and N-075 descriptors, represent CHR_2X, R–CX–R and R–N–R/R–N–X respectively.
Reference	QSAR study on melanocortin-4 receptors by support vector machine. *European Journal of Medicinal Chemistry* 45 (2010) 1087–1093