

**Supplementary Figure.** Ramachandran plot of the psi/phi distribution of the homology model as obtained by Procheck. 93.4% residues are in favoured and 1.15% residues are in outlier region.

**Supplementary table** Docking and screening results of 16 compounds

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Screened compound** | **Structure** | **Glide score** | **Ligand****efficiency** | **Mushroom TYR activation ratio(%)** | **Cell-based TYR activation ratio()%** |
| **CD1** |  | -4.307 | -0.253 | 67 | 105 |
| **CD2** |  | -6.126 | -0.292 | 107 | 103 |
| **CD3** |  | -3.608 | -0.206 | 108 | 98 |
| **CD4** |  | -5.091 | -0.21 | 97 | -[a] |
| **CD5** |  | -4.466 | -0.176 | 96 | 97 |
| **CD6** |  | -5.684 | -0.211 | 106 | 117 |
| **CD7** |  | -5.489 | -0.238 | 113 | 133 |
| **CD8** |  | -5.105 | -0.198 | 103 | 104 |
| **CD9** |  | -4.694 | -0.181 | 122 | 168 |
| **CD10** |  | -4.996 | -0.163 | 95 | 107 |
| **CD11** |  | -5.314 | -0.085 | 95 | -[a] |
| **CD12** |  | -5.677 | -0.11 | 96 | -[a] |
| **CD13** |  | -3.673 | -0.122 | 91 | 92 |
| **CD14** |  | -5.772 | -0.187 | 93 | 86 |
| **CD15** |  | -5.948 | -0.218 | 90 | 97 |
| **CD16** |  | -5.005 | -0.227 | 92 | 104 |
| **8-MOP** |  | -4.617 | -0.286 | 119 | 140 |

**Notes:** [a] indicate severe cytotoxicity. For mushroom TYR activity, n=6. For cell based TYR activity, n=3.