

Product Name : Tirzepatide
Cat. No. : PC-72629
CAS No. : 2023788-19-2
Molecular Formula : C₂₂₅H₃₄₈N₄₈O₆₈
Molecular Weight : 4813.45
Target : Glucagon Receptor
Solubility : 10 mM in DMSO

Tyr-Alb-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Ile-Alb-Leu-Asp-Lys(N^ε-(S)-1
trioxo-2,5,11,14-tetraoxa-8,17,22-triazadotetracontan-42-onyl)-Ile-Ala-Gln-L-
Leu-Ile-Ala-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH₂

Biological Activity

Tirzepatide (LY3298176) is a novel dual glucose-dependent insulinotropic polypeptide (**GIP**) and glucagon-like peptide-1 (**GLP-1**) receptor agonist, binds both receptor with high affinity (GIPR Ki=0.135; GLP-1R Ki=4.23 nM).

Tirzepatide (LY3298176) is comparable to native GIP for the GIPR and approximately 5-fold weaker than native GLP-1 for the GLP-1R.

Tirzepatide (LY3298176) potently stimulates cAMP accumulation by either receptor (GIPR EC₅₀=0.0224 nM; GLP-1R EC₅₀=0.934 nM) in signaling studies using cell lines with recombinantly expressed GIPR or GLP-1R.

Tirzepatide (LY3298176) is less potent than the selective GLP-1RA semaglutide (Cat. PC-73177) (GLP-1R Ki=1.97 nM; cAMP EC₅₀=0.0571 nM), and has minimal activity on the closely related glucagon receptor.

Tirzepatide (LY3298176) can induce glucose-dependent insulin secretion in vitro and in vivo through either the GIPR or the GLP-1R.

References

Frias JP, et al. *Lancet*. 2018 Nov 17;392(10160):2180-2193.

Frias JP, et al. *Diabetes Obes Metab*. 2020 Jun;22(6):938-946.

Coskun T, et al. *Mol Metab*. 2018 Dec;18:3-14.

Caution: Product has not been fully validated for medical applications. Lab Use Only!

E-mail: tech@probechem.com