

Data Sheet

Product Name:	Retatrutide	
Cat. No.:	CS-0615059	
CAS No.:	2381089-83-2	
Molecular Formula:	C ₂₂₁ H ₃₄₂ N ₄₆ O ₆₈	Tyr-{Aib}-Gln-Gly-Thr-Phe-Thr-Ser-Asp-
Molecular Weight:	4731.33	Tyr-Ser-Ile- α -Me-Leu-Leu-Asp-Lys-
Target:	GCGR; GLP Receptor	{diacid-C20- γ -Glu-(AEEA)-Lys}-Ala-Gln-
Pathway:	GPCR/G Protein	{Aib}-Ala-Phe-Ile-Glu-Tyr-Leu-Leu-Glu-
Solubility:	DMSO : 50 mg/mL (ultrasonic); H ₂ O : 20 mg/mL (ultrasonic; adjust pH to 9 with NH ₃ ·H ₂ O)	Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH ₂

BIOLOGICAL ACTIVITY:

Retatrutide (LY3437943) is a triple agonist peptide of the **glucagon receptor (GCGR)**, **glucosedependent insulinotropic polypeptide receptor (GIPR)**, and **glucagon-like peptide-1 receptor (GLP-1R)**. Retatrutide binds human GCGR, GIPR, and GLP-1R with **EC₅₀** values of 5.79, 0.0643 and 0.775 nM, respectively. Retatrutide can be used for the research of obesity^[1]. IC₅₀ &

Target: EC₅₀ (for human): 5.79 (GCGR), 0.0643 (GIPR), 0.775 nM (GLP-1R) ^[1].

EC₅₀ (for mouse): 2.32 (GCGR), 0.191 (GIPR), 0.794 nM (GLP-1R) ^[1].

K_i (for human): 5.6 (GCGR), 0.057 (GIPR), 7.2 nM (GLP-1R) ^[1].

K_i (for mouse): 73 (GCGR), 2.8 (GIPR), 1.3 nM (GLP-1R)^[1]. *In Vitro*: Retatrutide (LY3437943) has efficacy for human GCGR, GIPR, and GLP-1R with EC₅₀ values of 5.79, 0.0643 and 0.775 nM, respectively^[1].

Retatrutide has efficacy for mouse GCGR, GIPR, and GLP-1R with EC₅₀ values of 2.32, 0.191 and 0.794 nM, respectively^[1].

Retatrutide has binding affinity for human GCGR, GIPR, and GLP-1R with K_i values of 5.6, 0.057 and 7.2 nM, respectively^[1].

Retatrutide has binding affinity for mouse GCGR, GIPR, and GLP-1R with K_i values of 73, 2.8 and 1.3 nM, respectively^[1].

In Vivo: Retatrutide (LY3437943) (s.c.; 47 μ g/kg; single) engages GCGR in vivo and can improve glucose tolerance in an ipGTT through either the GIP or GLP-1 receptors^[1].

Retatrutide (s.c.; 10 mL/kg; cycle every 3 days; for 21 days) causes great body weight loss and increases energy expenditure through glucagon receptor activation^[1].

Retatrutide has safety and tolerability^[1].

References:

[1]. Tamer Coskun, et al. LY3437943, a novel triple glucagon, GIP, and GLP-1 receptor agonist for glycemic control and weight loss: From discovery to clinical proof of concept. Cell Metab. 2022 Sep 6;34(9):1234-1247.e9.

CAIndexNames:

L-Serinamide, L-tyrosyl-2-methylalanyl-L-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-tyrosyl-L-seryl-L-isoleucyl-2-methyl-L-leucyl-L-leucyl-L- α -aspartyl-L-lysyl-N₆-[N-(19-carboxy-1-oxononadecyl)-L- γ -glutamyl-2-[2-(2-aminoethoxy)ethoxy]acetyl]-L-lysyl-L-alanyl-L-glutamyl-L-methylalanyl-L-alanyl-L-phenylalanyl-L-isoleucyl-L- α -glutamyl-L-tyrosyl-L-leucyl-L-leucyl-L- α -glutamylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl-

SMILES:

CC[C@H](C)C(C(=O)N[C@@H](CCC(=O)O)C(=O)N[C@@H](CC1=CC=C(C=C1)O)C(=O)N[C@@H](CC(C)C)C(=O)N[C@@H](CC(C)C)C(=O)N[C@@H](CCC(=O)O)C(=O)NCC(=O)NCC(=O)N2CCC[C@H]2C(=O)N[C@@H](CO)C(=O)N[C@@H](CO)C(=O)NCC(=O)N[C@@H](C)C(=O)N3CCC[C@H]3C(=O)N4CCC[C@H]4C(=O)N5CCC[C@H]5C(=O)N[C@@H](CO)C(=O)N)NC(=O)[C@H](CC6=CC=CC=C6)NC(=O)[C@H](C)NC(=O)C(C)(C)NC(=O)[C@H](CC(C(=O)N)NC(=O)[C@H](C)NC(=O)[C@H](CCCCNC(=O)COCCOCCNC(=O)CC[C@H](C(=O)O)NC(=O)CCCCCCCCCCCCCCCCCCCC(=O)O)NC(=O)[C@H](CCCCN)NC(=O)[C@H](CC(=O)O)NC(=O)[C@H](CC(C)C)NC(=O)[C@@](C)(CC(C)C)NC(=O)C([C@@H](C)CC)NC(=O)[C@H](CO)NC(=O)[C@H](CC7=CC=C(C=C7)O)NC(=O)[C@H](CC(=O)O)NC(=O)[C@H](CO)NC(=O)[C@H]([C@@H](C)O)NC(=O)[C@H](CC8=CC=CC=C8)NC(=O)[C@H]([C@@H](C)O)NC(=O)CNC(=O)[C@H](CCC(=O)N)NC(=O)C(C)(C)NC(=O)[C@H](CC9=CC=C(C=C9)O)N

Caution: Product has not been fully validated for medical applications. For research use only.

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