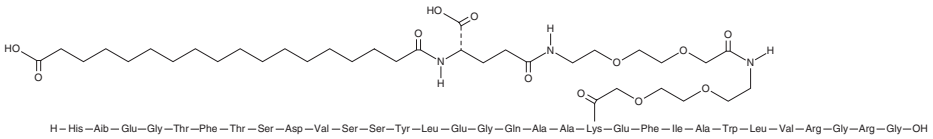
PRODUCT INFORMATION

Semaglutide

Item No. 40231

CAS Registry No.:	910463-68-2
MF:	$C_{187}H_{291}N_{45}O_{59}$
FW:	4,113.6
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Semaglutide is supplied as a solid. A stock solution may be made by dissolving the semaglutide in the solvent of choice, which should be purged with an inert gas. Semaglutide is soluble in methanol.

Description

Semaglutide is an agonist of glucagon-like peptide 1 receptor (GLP-1R; EC_{50} = 6.2 pM in a reporter assay using BHK cells expressing the human receptor).[1] It decreases blood glucose levels in the *db/db* mouse model of type 2 diabetes (ED_{50} = <2 nmol/kg). Semaglutide (25 nmol/kg) prevents decreases in the number of dopaminergic neurons in the substantia nigra and increases in lipid peroxidation in the substantia nigra and striatum, as well as improves motor coordination in the rotarod and footprint tests in a mouse model of Parkinson's disease induced by MPTP.[2] It decreases neuronal loss in the hippocampal dentate gyrus and CA1 and CA3 regions and improves motor coordination and grip strength in the beam-walking and hanging wire tests, respectively, in a rat model of stroke induced by permanent middle cerebral artery occlusion (MCAO) when administered at a dose of 10 nmol/kg every other day.[3] Formulations containing semaglutide have been used in the treatment of type 2 diabetes.

References

1. Lau, J., Bloch, P., Schäffer, L., *et al.* Discovery of the once-weekly glucagon-like peptide-1 (GLP-1) analogue semaglutide. *J. Med. Chem.* **58(18)**, 7370-7380 (2015).
2. Zhang, L., Zhang, L., Li, L., *et al.* Neuroprotective effects of the novel GLP-1 long acting analogue semaglutide in the MPTP Parkinson's disease mouse model. *Neuropeptides* **71**, 70-80 (2018).
3. Yang, X., Feng, P., Zhang, X., *et al.* The diabetes drug semaglutide reduces infarct size, inflammation, and apoptosis, and normalizes neurogenesis in a rat model of stroke. *Neuropharmacology* **158**, 107748 (2019).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM