

Partial glucagonR agonist

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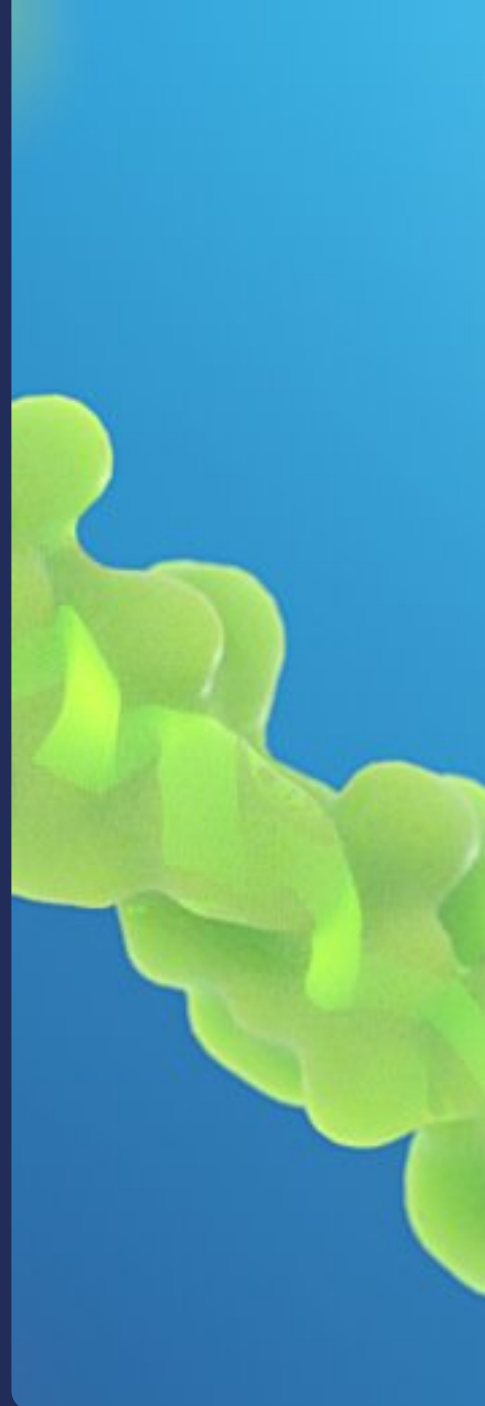
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Partial glucagonR agonist

Glucagon is a 29 amino acid residue peptide hormone produced by the alpha-cells in the pancreas. Together with insulin it regulates blood glucose levels. It stimulates release of glucose from the liver at low blood glucose levels by increasing gluconeogenesis and glycogenolysis, and by suppressing glycolysis. Glucagon is used to treat insulin-induced severe hypoglycemia. This compound is a partial glucagon receptor agonist.

Category	Glucagon
ID	NNC9204-1702
Amount pr. vial	1000 nmol



Calculated properties

Property	NNC9204-1702	Glucagon
MW (Da)	3900.1	3482.7
pI (calculated)	3.7	6.4
Sequence substitutions (compared to reference);	desHis1, Glu9, Lys24(4xGlu-Ac)	-
Extinction coefficient (calculated, 280 nm)	8480	8840

Structural information

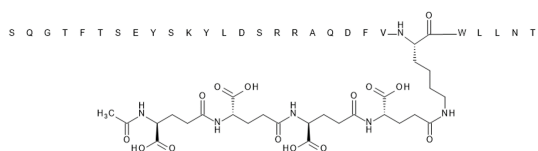


Figure 1



Figure 2

Figure 1

2D sketch of the structure of NNC9204-1702. Compared to native glucagon, the N-terminal histine has been removed, a glutamic acid is present in position 9 and Ac-4xgGlu has been attached to the lysine in position 24.

Figure 2

2D sketch of the sequence of native glucagon.

In vitro data

Please see the Zhang *et al.* 2018 reference listed in the reference section for further details.

Glucagon receptor	Compound	IC50 (nM)
Wild type	Glucagon	37.2
	NNC9204-1702	53.5
Construct	Glucagon	196
	NNC9204-1702	8.1

Reference Compound

Native glucagon is available as a reference compound to NNC9204-1702. Please indicate in the 'Purpose' field when you order NNC9204-1702 if you would like to have native glucagon included in your shipment

Compound handling instructions

The freeze-dried material should be stored at -18C. NNC9204-1702 can be dosed in vivo in a formulation vehicle containing 50mM sodium phosphate, 145mM propylene glycol, (0.007% polysorbate 20 if concentrations are so low that adsorption to vials may affect the concentration), pH 7.4. Stability in aqueous media is poor thus formulations should be used fresh. For in vitro it is recommended to dissolve human glucagon in 100% DMSO and keep at max 5C. Peptides and proteins have a tendency to adhere to glass and plastic surfaces. This may at low concentration impact the actual amount in solution. To minimize this unspecific adherence, adding detergents or inert proteins like e. g., ovalbumin or other serum albumins to the solution can minimize this phenomenon. In case albumins are added to peptide/protein solutions, ensure that the albumins are free of any proteases.

References

1. Zhang H et al.
Structure of the glucagon receptor in complex with a glucagon analogue

Nature. 2018;553(7686):106-110