Crotedumab

Cat. No.: HY-P99357

CAS No.: 1452387-69-7

Target: GCGR

Pathway: GPCR/G Protein

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Crotedumab (REGN1193) is a fully human IgG4 monoclonal antibody that binds and inhibits glucagon receptor (GCGR), with a K_D of 0.1 nM. Crotedumab can be used for the research of diabetes[1][2].
IC_{50} & Target	KD: 0.1 nM[2]
In Vitro	Crotedumab binds to GCGR from multiple species (mouse, rat, monkey, and humans) with high affinity (K_D=0.03 nM-0.39 nM)[2]. Crotedumab inhibits Glucagon-induced signaling through GCGR with IC_{50}s of 0.65, 3.2, 0.94 and 1.0 nM in HEK293 cells transfected with GCGR from human, monkey, mouse, and rat, respectively[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Crotedumab (3-30 mg/kg; s.c. once weekly for 4 weeks) reduces blood glucose and body weight and induces reversible hyperglucagonemia and α-cell hyperplasia in DIO C57BL/6 mice[2]. Crotedumab (10 mg/kg; a single s.c.) markedly decreases blood glucose for 18 days in diabetic ob/ob mice[2]. REGN1193 (20 mg/kg; a single i.v.) produces a robust reduction in overnight-fasted blood glucose in both the conscious and anesthetized state of diabetic cynomolgus monkeys as well as in blood glucose measured 1 hour after feeding[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Diet-induced obese (DIO) male C57BL/6NTac mice were maintained on high-fat diet[2]
Dosage:	3, 10, 30 mg/kg
Administration:	S.c. injection once weekly for 4 weeks
Result:	Markedly reduced blood glucose throughout the dosing period. Reversibly decreased body weight during the dosing period. Dose- and time-dependently increased glucagon and GLP-1. Reversibly increased α-cell area.

REFERENCES

[1]. Kostic A, et, al. A first-in-human pharmacodynamic and pharmacokinetic study of a fully human anti-glucagon receptor monoclonal antibody in normal healthy

volunteers. Diabetes Obes Metab. 2018 Feb;20(2):283-291.

[2]. Okamot H, et, al. Glucagon Receptor Blockade With a Human Antibody Normalizes Blood Glucose in Diabetic Mice and Monkeys. Endocrinology. 2015 Aug;156(8):2781-94.

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