Cibinetide

Cat. No.:	HY-P0168
CAS No.:	1208243-50-8
Molecular Formula:	$C_{51}H_{84}N_{16}O_{21}$
Molecular Weight:	1257.31
Sequence Shortening:	{Glp}-EQLERALNSS
Target:	Others
Pathway:	Others

Storage:

Powder	-80°C	2 years
	-20°C	1 year
In solvent	-80°C	6 months
	-20°C	1 month

{Glp}EQLERALNSS

SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 34 mg/mL (27.04 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.7953 mL	3.9767 mL	7.9535 mL
5 mM	0.1591 mL	0.7953 mL	1.5907 mL
10 mM	0.0795 mL	0.3977 mL	0.7953 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Cibinetide (ARA290) is an EPO-derivative, acting as a specific agonist of erythropoietin/CD131 heteroreceptor, and used for neurological disease treatment.

In Vitro

Cibinetide (ARA290) enhances the proliferation, migration, and resistance to H_2O_2-induced apoptosis of endothelial colony-forming cells (ECFCs)[1]. Cibinetide (ARA290) is an EPO-analog peptide without hematopoietic side-effects but may have neurotrophic and antidepressant effects[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

After ECFC transplantation to mice with CLI, a single Cibinetide (ARA290) injection enhances the ischemic/non-ischemic ratio of hindlimb blood flow and capillary density after 28 days and the homing of radiolabeled transplanted cells to the ischemic leg 4 h after transplantation[1]. Cibinetide (ARA290; 30 μg/kg, s.c.) prevents progressive worsening of glucose control without affecting body weight of rats. Cibinetide significantly decreases glucose AUCs in IPGTT in GK rats[2]. Low-dosage Cibinetide (35 μg/kg, i.p.) treatment only slightly attenuates the EAE severity in rats. Cibinetide-treating group (70 μg/kg, i.p.)

significantly delays the onset, decreases the neurologic severity and shortens the duration of EAE in a dose-dependent way [3].

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PROTOCOL

Animal Administration [2]

Diabetic Goto-Kakizaki (GK) rats, originating from Wistar rats, are bred in our department. Normal Wistar (W) rats are used as nondiabetic controls. All animals are about six weeks old and with body weights 100 to 150 g when treatment is initiated. They are kept at 22°C on a reversed 12-h light-dark cycle with free access to food, except when fasted overnight as noted below. Rats are treated over 4 wks with Cibinetide by a once daily subcutaneous (s.c.) injection at a dose of 30 μg/kg body weight or PBS. Blood samples for determination of glucose are taken after a small tail incision and analyzed every week before morning s.c. injection of either Cibinetide or placebo. During the experimental period, body weights are measured weekly.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Toxicol In Vitro. 2020 Aug;66:104864.

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REFERENCES

[1]. Hache G, et al. ARA290, a Specific Agonist of Erythropoietin/CD131 Heteroreceptor, Improves Circulating Endothelial Progenitors' Angiogenic Potential and Homing Ability. Shock. 2016 Oct;46(4):390-7

[2]. Carole Muller, et al. ARA290 Improves Insulin Release and Glucose Tolerance in Type 2 Diabetic Goto-Kakizaki Rats. Mol Med. 2015; 21(1): 969–978

[3]. Chen H, et al. Therapeutic effects of nonerythropoietic erythropoietin analog ARA290 in experimental autoimmune encephalomyelitis rat. J Neuroimmunol. 2014 Mar 15;268(1-2):64-70

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