Nepuvibart

Cat. No.:	HY-145643
CAS No.:	2640224-48-0
Target:	SARS-CoV
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

Nepuvibart (ZRC3308-B10) is an anti-SARS-CoV-2 monoclonal antibody (IgG1 type). Nepuvibart shows good binding affinity to a non-competing epitope on the RBD of the SARS-CoV-2 spike protein. Nepuvibart can be used in combination with ZRC3308-A7 (HY-145642) at a ratio of 1:1, which is effective for the prevention of COVID-19 and the early stage of COVID-19 before the development of severe disease[1].

IC_{50} & Target

SARS-CoV-2[1].

In Vitro

Nepuvibart (ZRC3308-B10; 0-5×10^5 ng/mL) shows virus neutralizing ability in VeroE6/Vero CCL81 (SARS-CoV-2 infection model) cells, when in combination with ZRC3308-A7 (ratio 1:1)[1].

Nepuvibart neutralizes SARS-CoV-2 variants B.1.1.7, B.1.351, B.1.617.2, and B.1.617.2AY.1 in vitro, when in combination with ZRC3308-A7 (ratio 1:1) [1].

Nepuvibart binds to the RBD of SARS-CoV-2 S1 protein[1].

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

Cell Viability Assay[1]

Cell Line:	VeroE6/Vero CCL81 cells (SARS-CoV-2 infection model)
Concentration:	0-5×10^5 ng/mL (in combination with ZRC3308-A7)
Incubation Time:	72 h
Result:	Showed potent neutralization activity with an IC_{50} of 0.1283 ng/mL.

In Vivo

Nepuvibart (ZRC3308-B10; 0.5, 2.5, 25 mg/kg; 48 h prior to the SARS-CoV-2 infection) effectively prevents SARS-CoV-2 infection in syrian hamster, when in combination with ZRC3308-A7 (ratio 1:1)[1].

Nepuvibart (0.5, 2.5, 25 mg/kg; i.p.; single) shows the serum levels remaines constant without much reduction for up to 7 days, in syrian hamster [1].

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Animal Model:	Female syrian hamster (7 to 10-week-old; SARS-CoV-2 infection model)[1].
Dosage:	0.5, 2.5, 25 mg/kg

Administration:	Intraperitoneal injection; 48 h prior to the SARS-CoV-2 infection
Result:	Prevented SARS-CoV-2 infection when in combination with ZRC3308-A7.

REFERENCES

[1]. Yadav PD, et al. ZRC3308 Monoclonal Antibody Cocktail Shows Protective Efficacy in Syrian Hamsters against SARS-CoV-2 Infection. Viruses. 2021 Dec 3;13(12):2424.

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