

Concizumab

Cat. No.:	HY-P99283
CAS No.:	1312299-39-0
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Concizumab is an anti-TFPI monoclonal antibody (IgG4 type) that binds to the Kunitz-type protease inhibitor (KPI) 2 structural domain of TFPI, thereby blocking the interaction of this structural domain with the FXa active site. Concizumab can be used in the study of haemophilia ^{[1][2]} .			
IC₅₀ & Target	TFPI ^{[1][2]} .			
In Vitro	Concizumab increases thrombin peak in a concentration- dependent manner ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.			
In Vivo	Concizumab (i.v./s.c.) blocks the TFPI interaction with the active site of FXa in cynomolgus monkeys ^[2] . Pharmacokinetic parameters after intravenous or subcutaneous administration of Concizumab to cynomolgus monkeys ^[2] .			
	Parameter	Unit	Estimate	%RSE
	CL _L	mL/h/kg	0.14	6.1
	V1	mL/kg	33	34
	V2	mL/kg	33	-
	Q	mL/h/kg	0.12	16
	F	%	93	7.7
	V _{max}	µg/h/kg	11	17
	K _m	µg/mL	0.54	52
	t _{1/2} (abs)	h	72	32

CL_L: the linear part of the clearance.
V1: the volume of the central compartment.
V2: the volume of the peripheral compartment.
V_{max}: the maximum amount of anti-TFPI cleared per time unit via binding to TFPI.
K_m: the concentration at which the target mediated elimination rate is 50% of the maximum value (V_{max}).
T_{1/2(abs)}: the absorption half-life, describing the rate of absorption after sc administration.
%RSE: residual standard error.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Cynomolgus monkeys (target mediated drug disposition (TMDD) model) ^[2] .
Dosage:	20mg/kg or 200 mg/kg
Administration:	Intravenous injection/subcutaneous injection
Result:	Showed a high bioavailability (93%) and the absorption half-life is estimated to be 72 h.

REFERENCES

[1]. Kjalke M, et al. Thrombin generation potential in the presence of concizumab and rFVIIa, APCC, rFVIII, or rFIX: In vitro and ex vivo analyses. *J Thromb Haemost.* 2021 Jul;19(7):1687-1696.

[2]. Agersø H, et al. Pharmacokinetics of an anti-TFPI monoclonal antibody (concizumab) blocking the TFPI interaction with the active site of FXa in Cynomolgus monkeys after iv and sc administration. *Eur J Pharm Sci.* 2014 Jun 2;56:65-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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