

Ranibizumab (anti-VEGF)

Cat. No.:	HY-P9951A
CAS No.:	347396-82-1
Target:	VEGFR
Pathway:	Protein Tyrosine Kinase/RTK
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Ranibizumab (RG-6321) (anti-VEGF) is a humanized anti-VEGF monoclonal antibody fragment and can recognize all VEGF-A isoforms (VEGF110, VEGF121, and VEGF165) ^[1] . Ranibizumab (anti-VEGF) slows vision loss in vivo and is used for wet age-related macular degeneration (AMD) research ^[1] .
In Vitro	Ranibizumab (RG-6321) is a humanized anti-VEGF monoclonal antibody fragment (IgG antigen-binding fragment (Fab-Y0317) ^[2] . Ranibizumab (0.0625-0.25 mg/ml; 72 hours) results in increased necrosis and apoptosis at in rat retinal cell cultures ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Studies in monkeys demonstrates that after a single intravitreal administration, Ranibizumab can distribute rapidly to the retina (6–24 h). Ranibizumab can rapidly penetrate through the retina to reach the choroid, just 1 h after intravitreal administration in rabbits ^[1] . In a study comparing the pharmacokinetics of 0.5 mg of intravitreal Ranibizumab with 1.25 mg of intravitreal Bevacizumab in the rabbit, the vitreous half-life of Ranibizumab is 2.88 days, shorter than the Bevacizumab half-life of 4.32 days. Peak concentrations in the aqueous humor of the treated eye at 3 days following treatment are 37.7 µg/ml for Bevacizumab and 17.9 µg/ml for Ranibizumab, respectively ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Mustafa Şahiner, et al. The Effects of Anti-Vascular Endothelial Growth Factor Drugs on Retinal Pigment Epithelial Cell Culture. *Turk J Ophthalmol.* 2018 Aug;48(4):190-195.
- [2]. K J Kim, et al. The vascular endothelial growth factor proteins: identification of biologically relevant regions by neutralizing monoclonal antibodies. *Growth Factors.* 1992;7(1):53-64.
- [3]. Richard Filek, et al. Safety of anti-VEGF treatments in a diabetic rat model and retinal cell culture. *Clin Ophthalmol.* 2019 Jul 1;13:1097-1114.

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

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