

Itolizumab

Cat. No.:	HY-P99252
CAS No.:	1116433-11-4
Target:	CD6
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	<p>Itolizumab (Anti-Human CD6 Recombinant Antibody) is a humanized recombinant anti-CD6 monoclonal antibody (MAb) targeting the extracellular SRCR distal domain 1 of CD6. Itolizumab reduces T-cell proliferation and inhibits the production of pro-inflammatory cytokines, such as INF-γ, TNFα and IL-6. Itolizumab can be used in the research of psoriasis, rheumatoid arthritis (RA), COVID-19^{[1][2][3]}.</p>									
IC₅₀ & Target	CD6 ^[1]									
In Vitro	<p>Itolizumab (100 μg/mL) inhibits T cell proliferation^[4]. Itolizumab (0-100 μg/mL) inhibits Treg polarization and enhances acquisition of Th1 phenotype in PBMCs^[4]. Itolizumab (40 μg/mL) reduces CD26^{hi}CD161+γT cells during culture of PBMCs overnight^[5]. Itolizumab (40 μg/mL, 3-12 days) reduces the expression of IL-17 and IFN-γ in PBMCs stimulated in Th17 polarizing conditions^[6]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>									
In Vivo	<p>Itolizumab (60 μg or 300μg, i.p., everyday) shows therapeutic efficiency in a humanized xenograft mouse model of Graft Vs Host Disease (GVHD)^[7]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Humanized xenograft mice, generated by intravenous transfer human PBMCs into 6-8 weeks old NOD/SCID IL2γ-null (NSG)^[7]</td> </tr> <tr> <td>Dosage:</td> <td>60 μg or 300μg</td> </tr> <tr> <td>Administration:</td> <td>Intraperitoneal injection (i.p.), prior to PBMC transplantation.</td> </tr> <tr> <td>Result:</td> <td>Decreased mortality compared to the vehicle (100% vs. 10%).</td> </tr> </table>		Animal Model:	Humanized xenograft mice, generated by intravenous transfer human PBMCs into 6-8 weeks old NOD/SCID IL2 γ -null (NSG) ^[7]	Dosage:	60 μ g or 300 μ g	Administration:	Intraperitoneal injection (i.p.), prior to PBMC transplantation.	Result:	Decreased mortality compared to the vehicle (100% vs. 10%).
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REFERENCES

- [1]. Saavedra D, et al. An anti-CD6 monoclonal antibody (itolizumab) reduces circulating IL-6 in severe COVID-19 elderly patients. *Immun Ageing*. 2020 Nov 14;17(1):34.
- [2]. Loganathan S, et al. Itolizumab, an anti-CD6 monoclonal antibody, as a potential treatment for COVID-19 complications. *Expert Opin Biol Ther*. 2020 Sep;20(9):1025-

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[3]. Srivastava A. Itolizumab in Psoriasis. Indian J Dermatol. 2017 Jul-Aug;62(4):418-421.

[4]. Freitas RF, et al. Modulation of CD4 T cell function via CD6-targeting. EBioMedicine. 2019 Sep;47:427-435.

[5]. Globig AM, et al. High-dimensional profiling reveals Tc17 cell enrichment in active Crohn's disease and identifies a potentially targetable signature. Nat Commun. 2022 Jun 27;13(1):3688.

[6]. Bughani U, et al. T cell activation and differentiation is modulated by a CD6 domain 1 antibody Itolizumab. PLoS One. 2017 Jul 3;12(7):e0180088.

[7]. Cherie Tracy Ng, et al. Itolizumab As a Potential Therapeutic for the Prevention and Treatment of Graft Vs Host Disease. Blood (2019) 134 (Supplement_1): 5603.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA