Monalizumab

Cat. No.:	HY-P99032
CAS No.:	1228763-95-8
Target:	Checkpoint Kinase (Chk); IFNAR
Pathway:	Cell Cycle/DNA Damage; Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Monalizumab (IPH2201) is an immune checkpoint inhibitor targeting Natural Killer Group 2A (NKG2A). Monalizumab, a humanized anti-NKG2A blocking mAb, increases IFN-γ production, thereby promoting NK cell effector functions. Monalizumab can be used for the research of head and neck squamous cell carcinoma (HNSCC)[1][2].
In Vitro	Monalizumab blocks NKG2A and enhances CLL NK-cell mediated cytotoxicity against HLA-E-expressing K562 cells[3]. Monalizumab enhances the Enzalutamide (HY-70002) (10 μM)-induced NK cell activation and killing of prostate cancer cells (LNCaP and 22Rv1)[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Monalizumab (50 μg, intratumoral injections, together with 8 millions of activated NK cells) effectively inhibits tumor growth in xenografted HLA-E$^+$ tumors in immunodeficient mice[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	immunodeficient mice xenografted with Cal-27 HLA-E high tumor cell[4]
Dosage:	50 μg, together with 8 millions of activated NK cells
Administration:	intratumoral injections
Result:	Shows a synergestic antitumor effect. Enhanced NK-cell killing, and induces lysis of tumor cells.

CUSTOMER VALIDATION

- Cancer Cell. 2024 Jan 8;42(1):135-156.e17.

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REFERENCES

[1]. Thorbald van Hall, et al. Monalizumab: inhibiting the novel immune checkpoint NKG2A. J Immunother Cancer. 2019 Oct 17;7(1):263.

[2]. Christian Borel, et al. Immunotherapy Breakthroughs in the Treatment of Recurrent or Metastatic Head and Neck Squamous Cell Carcinoma. Cancers (Basel). 2020 Sep 21;12(9):2691.

[3]. McWilliams EM, et al. Therapeutic CD94/NKG2A blockade improves natural killer cell dysfunction in chronic lymphocytic leukemia. Oncoimmunology. 2016 Sep 9;5(10):e1226720.

[4]. Melero I, et al. Intratumoral co-injection of NK cells and NKG2A-neutralizing monoclonal antibodies. EMBO Mol Med. 2023 Nov 8;15(11):e17804.

[5]. Maximilian Pinho-Schwermann, et al. Androgen receptor signaling blockade enhances NK cell-mediated killing of prostate cancer cells and sensitivity to NK cell checkpoint blockade.doi https://doi.org/10.1101/2023.11.15.567201

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

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