Tovetumab

Cat. No.:	HY-P99223
CAS No.:	1243266-04-7
Target:	PDGFR
Pathway:	Protein Tyrosine Kinase/RTK
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Tovetumab (MEDI-575) is an anti-PDGFRα monoclonal antibody that selectively blocks the PDGFRα signal transduction. Tovetumab can be used in the research of glioblastoma and non-small cell lung cancer (NSCLC)[1][2].
IC_{50} & Target	PDGFRα
In Vitro	Tovetumab (10-100 nM, 1-2 h) binds to PDGFRα on H1703 cells (determined by Alexa647-labeled tovetumab)[1]. Tovetumab (0.001-10 nM, 10 min) inhibits ligand-induced phosphorylation of human PDGFRα in MG-63 cells[2]. Tovetumab (0.001-100 nM, 72 h) inhibits Ligand-induced proliferation of cancer-associated fibroblasts (CAFs) [2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Tovetumab (0.6-60 mg/kg, i.v.) blocks the PDGFRα-mediated elimination of PDGF-AA, leading to an increase in circulating PDGF-AA level in Cynomolgus monkeys[1]. Tovetumab (10 mg/kg, i.p., twice a week) inhibits tumor growth in U118 glioma xenografts[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Cynomolgus monkey[1]
Dosage:	0.6, 6.0, and 60 mg/kg
Administration:	Intravenous injection (i.v.)
Result:	Induced > 100- fold increases in circulating concentrations of PDGF-AA.

Animal Model:	U118 glioma xenografts (CB17 SCID)[2]
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection (i.p.), twice per week.
Result:	Produced 101% inhibition of tumor growth.

REFERENCES

[1]. Meina Liang, et al. A Novel Pharmacodynamic Biomarker and Mechanistic Modeling Facilitate the Development of Tovetumab, a Monoclonal Antibody Directed Against Platelet-Derived Growth Factor Receptor Alpha, for Cancer Therapy. AAPS J. 2020 Nov 18;23(1):4.

[2]. Naomi Laing, et al. Inhibition of platelet-derived growth factor receptor α by MEDI-575 reduces tumor growth and stromal fibroblast content in a model of non-small cell lung cancer. Mol Pharmacol. 2013 Jun;83(6):1247-56.

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