Onartuzumab

Cat. No.: HY-P99250

CAS No.: 1133766-06-9

Target: c-Met/HGFR

Pathway: Protein Tyrosine Kinase/RTK

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

Onartuzumab (MetMAb) is a unique, humanized and affinity-matured monovalent (one-armed) monoclonal antibody against the MET receptor. Onartuzumab potently inhibits HGF binding and receptor phosphorylation and signaling. Onartuzumab has antibody-like pharmacokinetics and antitumor activity[1].

In Vitro

Onartuzumab acts specifically by blocking HGF α-chain (but not β-chain) binding to MET[1].
Onartuzumab blocks HGF binding to human c-Met with an inhibitory concentration (IC)50 of 1.8 nM and inhibits the subsequent induction of c-Met auto-phosphorylation and cell proliferation in many cancer cell lines[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Onartuzumab (30 mg/kg, IP, twice a week for 2 mouth) suppresses tumor growth[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Human HGF-transgenic SCID mice implanted with BxPC3 tumor cells, nude (nu/nu) mice implanted with KP4 human pancreatic xenograft tumor cells[3]
Dosage:	30 mg/kg
Administration:	IP, twice a week for 2 mouth
Result:	Suppressed tumor growth, but did not affect the mean in vivo human HGF levels.

Animal Model:	U-87 MG tumor-bearing mice[3]
Dosage:	30 mg/kg
Administration:	IP, once
Result:	Resulted in profound TGI (tumor growth inhibition) with 4/10 mice demonstrating a partial response (>50% reduction in tumor size) and 6/10 mice demonstrating a complete response (100% tumor regression).

REFERENCES

[1]. Merchant M, et al. Monovalent antibody design and mechanism of action of onartuzumab, a MET antagonist with anti-tumor activity as a therapeutic agent. Proc Natl Acad Sci U S A. 2013 Aug 6;110(32):E2987-96.

[2]. Prell RA, et al. Placental and Fetal Effects of Onartuzumab, a Met/HGF Signaling Antagonist, When Administered to Pregnant Cynomolgus Monkeys. Toxicol Sci. 2018 Sep 1;165(1):186-197.

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