

## Product Data Sheet

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Product Name: OM-RCA-01

Cat. No.: GC81314

### Chemical Properties

Cas. No.

Formula M.Wt 144.85

Solubility Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

# OM-RCA-01

### Background

OM-RCA-01 is an anti- FGFR1 monoclonal antibody with a K d of 1.59 nM for human FGFR1. OM-RCA-01 inhibits the phosphorylation of FGFR1, blocks FGF-mediated signaling pathways, and

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suppresses the proliferation of downstream tumor cells. OM-RCA-01 delays tumor growth in lung cancer and renal cancer xenograft models expressing FGFR1. When combined with Nivolumab, OM-RCA-01 enhances the release of IFN- $\gamma$  and IL-2. OM-RCA-01 is applicable for the research of lung cancer and renal cell carcinoma [1].

In Vivo, OM-RCA-01 (30 mg/kg; i.v.; twice weekly) induces a statistically significant two-fold reduction in median tumor volume and delays tumor growth in A549 lung cancer xenograft models, and combination with Pembrolizumab achieves 89% tumor growth inhibition [1]. OM-RCA-01 (30 mg/kg; once every 3 days) achieves 96% tumor growth delay in the cancer-associated fibroblast (CAF)-positive renal cell carcinoma cohort and 75% tumor growth delay in the CAF-negative renal cell carcinoma cohort, while increasing IFN- $\gamma$  and IL-2 cytokine levels [1].

In Vitro, OM-RCA-01 binds to FGFR1 with high affinity ( $K_d = 1.59$  nM) and inhibits its in vitro kinase activity [1]. OM-RCA-01 (1-100  $\mu$ g/mL, 3 h) potently inhibits FGFR1 phosphorylation and cell proliferation in FGFR1-overexpressing human lung cancer cell line A549 ( $GI_{50} = 9.69$   $\mu$ g/mL), but exerts no significant effect on FGFR1-low-expressing human melanoma cell line Mel Kor [1]. OM-RCA-01 (0.5-10 nmol/L; 5 days) enhances Nivolumab-induced IFN- $\gamma$  release and T-cell proliferation in a human allogeneic MLR assay, whereas it exhibits minimal effects when used alone when combined with Nivolumab [1]. OM-RCA-01 (1  $\mu$ g/mL; 4 days) increases Nivolumab-induced IL-2 secretion by 29%-74% in human peripheral blood mononuclear cells (PBMCs) stimulated with Staphylococcal enterotoxin B (SEB) [1].

### References:

[1]. Tsimafeyeu I, et al. A novel anti-FGFR1 monoclonal antibody OM-RCA-01 exhibits potent antitumor activity and enhances the efficacy of immune checkpoint inhibitors in lung cancer models. *Immunooncol Technol.* 2024;23:100725. Published 2024 Jul 26.

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