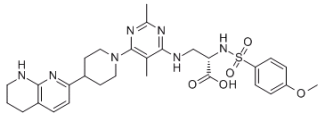
Data Sheet

Product Name:	GLPG0187
Cat. No.:	HY-100506
CAS No.:	1320346-97-1
Molecular Formula:	$C_{29}H_{37}N_7O_5S$
Molecular Weight:	595.71
Target:	Integrin
Pathway:	Cytoskeleton
Solubility:	DMSO: 15 mg/mL



BIOLOGICAL ACTIVITY:

GLPG0187 is a broad spectrum **integrin** receptor antagonist with antitumor activity; inhibits $\alpha_v\beta_1$-integrin with an **IC_{50}** of 1.3 nM. IC50 & Target: IC50: 1.3 nM ($\alpha_v\beta_1$)[1]

In Vitro: In a solid-phase assay, GLPG0187 shows selectivity for several RGD integrin receptors with IC_{50}s of 1.3, 3.7, 2.0, 1.4, 1.2, 7.7 nM for $\alpha_v\beta_1$, $\alpha_v\beta_3$, $\alpha_v\beta_5$, $\alpha_v\beta_6$,$\alpha_v\beta_8$, and $\alpha_5\beta_1$. GLPG0187 is a potent inhibitor of osteoclastic bone resorption and angiogenesis. Treatment with GLPG0187 dose-dependently increases the E-cadherin/vimentin ratio, rendering the cells a more epithelial, sessile phenotype. GLPG0187 dose-dependently diminishes the size of the aldehyde dehydrogenase high subpopulation of prostate cancer cells[1]. GLPG 0187 treatment results in cell rounding and clumping. GLPG0187 demonstrates a dose-dependent significant reduction in tumour cell migration. GLPG0187 at all concentrations significantly reduces cell proliferation[2].

In Vivo: Blocking α_v-integrins by GLPG0187 markedly reduces their metastatic tumor growth. Bone tumor burden is significantly lower and the number of bone metastases/mouse is significantly inhibited. The progression of bone metastases and the formation of new bone metastases during the treatment period is significantly inhibited[1].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [2]Tumour cell proliferation is determined using the MTS assay. PC3 cells are seeded at 10,000 cells/well in 96 well plates containing either GLPG0187 (0.5, 5, or 50 ng/mL), vehicle or media control, then cultured in 100 µL medium for 24 hr. Cell proliferation is analysed using 20 µL MTS dye incubated for 3 hr at 37°C in the dark. Absorbance from each well (6/treatment) is quantified at 490 nm and the mean fluorescence calculated. The assay is repeated at 48, 72 and 96 hr, on three independent occasions[2]. **Animal Administration:** GLPG0187 is prepared in 1:1 dimethyl sulfoxide in PBS.[1]Mouse: The effect of GLPG0187 on bone loss is evaluated in 3-month-old castrated male mice after 4 weeks of treatment with dosing starting immediately after castration (preventive protocol). Two different modes of administration are used: either subcutaneous twice daily with 10, 30, or 100 mg/kg of GLPG0187, either oral, twice daily with 30, 100, or 300 mg/kg of GLPG0187[1].

References:

[1]. van der Horst G, et al. Targeting of α(v)-integrins in stem/progenitor cells and supportive microenvironment impairs bone metastasis in human prostate cancer. Neoplasia. 2011 Jun;13(6):516-25.

[2]. Reeves KJ, et al. Prostate cancer cells home to bone using a novel in vivo model: modulation by the integrin antagonist GLPG0187. Int J Cancer. 2015 Apr 1; 136(7):1731-40.

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