

Belapectin

Cat. No.:	HY-114440		
CAS No.:	1980787-47-0		
Target:	Galectin; Apoptosis		
Pathway:	Immunology/Inflammation; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month

Belapectin

BIOLOGICAL ACTIVITY

Description	Belapectin (GR-MD-02) is a Galectin-3 (Gal-3) inhibitor. Belapectin drives tumor-induced immunosuppression by inducing T cell Apoptosis. Belapectin promotes tumor regression and improves survival of tumor-bearing mice through a CD8+ T cell-dependent mechanism. Belapectin binds to Gal-3 with affinity K_i of $2.8 \mu\text{M}$ ^{[1][2]} .								
IC₅₀ & Target	Galectin-3								
In Vitro	<p>Belapectin (0.2 mg/mL, 2 mg/mL; 48 h) inhibits the proliferation of 4T1 and MCA-205 cells and induced apoptosis^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Apoptosis Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>TRAMP-C1, 4T1 and MCA-205 cells</td> </tr> <tr> <td>Concentration:</td> <td>0.2 mg/mL, 2 mg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>48 h</td> </tr> <tr> <td>Result:</td> <td>Decreased the proliferation and resulted a minimal increase in apoptosis of 4T1 and MCA-205 cells. But showed no impact on TRAMP-C1 cell.</td> </tr> </table>	Cell Line:	TRAMP-C1, 4T1 and MCA-205 cells	Concentration:	0.2 mg/mL, 2 mg/mL	Incubation Time:	48 h	Result:	Decreased the proliferation and resulted a minimal increase in apoptosis of 4T1 and MCA-205 cells. But showed no impact on TRAMP-C1 cell.
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In Vivo	<p>Belapectin (2.4 mg/mouse; i.p.; 3 times per week for 3 weeks) only exerts function under the combination with anti-OX40 mAb, does cause a significant reduction in tumor growth and a corresponding increase in survival. The combined treatment also produces lasting long-term memory, and 100 percent of the tumor-free mice were protected from subsequent tumor reattacks^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Wild-type C57BL/6 and BALB/c mice^[1]</td> </tr> <tr> <td>Dosage:</td> <td>2.4 mg/mouse, accompanied with anti-OX40 mAb (250 μg)</td> </tr> <tr> <td>Administration:</td> <td>Intraperitoneal injection; 3 times per week for 3 weeks</td> </tr> <tr> <td>Result:</td> <td>Inhibited tumor growth. Enhanced the efficacy of checkpoint blockade (aPD-L1) immunotherapy.</td> </tr> </table>	Animal Model:	Wild-type C57BL/6 and BALB/c mice ^[1]	Dosage:	2.4 mg/mouse, accompanied with anti-OX40 mAb (250 μg)	Administration:	Intraperitoneal injection; 3 times per week for 3 weeks	Result:	Inhibited tumor growth. Enhanced the efficacy of checkpoint blockade (aPD-L1) immunotherapy.
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REFERENCES

[1]. Sturgill ER, et al. Galectin-3 inhibition with belapectin combined with anti-OX40 therapy reprograms the tumor microenvironment to favor anti-tumor immunity. *Oncoimmunology*. 2021 Mar 1;10(1):1892265.

[2]. Capasso D, et al. Galectins detection for the diagnosis of chronic diseases: An emerging biosensor approach[J]. *TrAC Trends in Analytical Chemistry*, 2023: 116952.

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

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