

TPP-1 TFA

Cat. No.:	HY-P3139A
Molecular Formula:	C ₁₀₉ H ₁₅₁ F ₃ N ₃₄ O ₃₄ S ₂
Molecular Weight:	2602.7
Sequence Shortening:	SGQYASYHCWCWRDPGRSGGSK
Target:	PD-1/PD-L1
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	<p>TPP-1 TFA is a potent inhibitor of the PD-1/PD-L1 interaction. TPP-1 TFA binds specifically to PD-L1 with a high affinity ($K_D = 95$ nM). TPP-1 TFA inhibits human tumor growth in vivo via reactivating T-cell function^[1].</p>	
In Vitro	<p>TPP-1 TFA binds to PD-L1 with high affinity and blocks PD-1/PD-L1 interaction. The K_D value of PD-L1 with TPP-1 TFA peptide is about 95 nmol/L (around five times less than that with PD-1), The binding site of TPP-1 TFA to PD-L1 is close to the interactive site of PD-1 and PD-L1^[1].</p> <p>TPP-1 TFA (4 μM) reactivates T-cell functions, it induces IFNγ release significantly higher than control and SPP-1, and the TPP-1 TFA group shows similar outcomes for cell proliferation^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	
In Vivo	<p>TPP-1 TFA (subcutaneous injection; 4 mg/kg; every other day eight times; 32 days) inhibits tumor growth (compared with SPP-1 and control). The growth rate in TPP-1 TFA-treated mice is 56%. And when administered in the absence of T cells (control group), TPP-1 TFA has no effect on the growth of the H460-luc tumors^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	
	Animal Model:	5- to 6-week-old female Balb/c nude mice injected with H460 cells transfected with the plvx-puro/luciferase lentiviral vector ^[1]
	Dosage:	4 mg/kg
	Administration:	Subcutaneous injection; 4 mg/kg; every other day eight times; 32 days
	Result:	Inhibited the tumor growth in a tumor xenograft model via reactivating T-cell function.

REFERENCES

[1]. Chunlin Li, et al. Peptide Blocking of PD-1/PD-L1 Interaction for Cancer Immunotherapy. Cancer Immunol Res. 2018 Feb;6(2):178-188.

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

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