PTD-p65-P1 Peptide TFA

Cat. No.: HY-P1832A

Molecular Formula: $C_{170}H_{276}F_3N_{57}O_{46}S$

Molecular Weight: 3943.52

Sequence Shortening: DRQIKIWFQNRRMKWKKQLRRPSDRELSE

DRQIKIWFQNRRMKWKKQLRRPSDRELSE (TFA salt)

Target: NF-κB; Apoptosis

Pathway: NF-κB; Apoptosis

Storage: Sealed storage, away from moisture and light, under nitrogen

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)

SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (25.36 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.2536 mL	1.2679 mL	2.5358 mL
	5 mM	0.0507 mL	0.2536 mL	0.5072 mL
	10 mM	0.0254 mL	0.1268 mL	0.2536 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

PTD-p65-P1 Peptide TFA is a potent, selective nuclear transcription factor NF-κB inhibitor and derives from the p65 subunit of NF-κB amino acid residues 271-282, which selectively inhibits NF-κB activation induced by various inflammatory stimulation, down-regulate NF-κB-mediated gene expression and up-regulate apoptosis[1][2].

IC_{50} & Target

NF-kappaB[1]

In Vitro

PTD-p65-P1 Peptide TFA (10-150 μM; 0-60 min; KBM-5 cells) inhibits TNF-induced NF-κB activation in a dose-dependent manner and suppresses TNF-induced NF-κB activation by 25% at 100 μM and completely at 150 μM[1].

PTD-p65-P1 Peptide TFA (150 μM; 0-60 min; KBM-5 cells) inhibits cytoplasmic p65 phosphorylation and nuclear translocation [1].

PTD-p65-P1 Peptide TFA (100 μM; 16 h; KBM-5 cells) potentiates the TNF-induced apoptosis from 4 to 45%[1].

PTD-p65-P1 Peptide TFA (150 μM; A 293 cells) inhibits NF-κB-dependent reporter gene expression induced by TNF[1].

PTD-p65-P1 Peptide TFA (150 μM; 12-24 h; SP-53 cells) inhibits the cell proliferation[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	KBM-5 cells
Concentration:	150 μM
Incubation Time:	0, 5, 10, 15, 30 and 60 minutes
Result:	Suppressed TNF-induced NF-κB activation by inhibiting phosphorylation and nuclear translocation of p65.

Cell Proliferation Assay[2]

Cell Line:	SP-53 cells
Concentration:	150 μM
Incubation Time:	12 and 24 hours
Result:	Inhibited cell proliferation of 40% in 12 hours and 60% in 24 hours.

CUSTOMER VALIDATION

- Cell Death Dis. 2023 Mar 10;14(3):188.
- Cell Cycle. 2022 Jun 28;1-13.

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REFERENCES

[1]. Takada Y, et, al. Identification of a p65 peptide that selectively inhibits NF-kappa B activation induced by various inflammatory stimuli and its role in down-regulation of NF-kappaB-mediated gene expression and up-regulation of apoptosis. J Biol Chem. 20

[2]. Shishodia S, et, al. Curcumin (diferuloylmethane) inhibits constitutive NF-kappaB activation, induces G1/S arrest, suppresses proliferation, and induces apoptosis in mantle cell lymphoma. Biochem Pharmacol. 2005 Sep 1;70(5):700-13.

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