CALP3 TFA

Cat. No.:	HY-P1075A
Molecular Formula:	$C_{46}H_{69}F_3N_{10}O_{11}$
Molecular Weight:	995.1
Sequence Shortening:	VKFGVGFK
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	CALP3 TFA, a Ca^{2+}-like peptide, is a potent Ca^{2+} channel blocker that activates EF hand motifs of Ca^{2+}-binding proteins. CALP3 TFA can functionally mimic increased $[Ca^{2+}]_i$ by modulating the activity of Calmodulin (CaM), Ca^{2+} channels and pumps. CALP3 TFA has the potential in controlling apoptosis in diseases such as AIDS or neuronal loss due to ischemia[1][2].
IC_{50} & Target	Ca^{2+}
In Vitro	CALP3 TFA (50, 100, 150, 200 μM) inhibits glutamate caused a large sustained increase in $[Ca^{2+}]_i$ in a dose-dependent manner (IC_{50}=37.25 μM) in Fura-2-loaded neuronal cultures[1]. CALP3 TFA (50, 100, 150, 200 μM) inhibits glutamate-induced cytotoxicity in a dose-dependent manner (IC_{50}=50.97 μM) in cultured rat neocortical neurons. CALP3 TFA causes dose-dependent inhibition of apoptosis (IC_{50}=33.41 μM)[1]. CALP3 TFA (100 μM) inhibits apoptosis induced by HIV gp120 and SAg in Human T cells[1]. CALP3 TFA (100 μM; 15 min pretreatment) reduces gossypol-induced necrosis and increases the fraction of live cells[2]. Cyclic-CALP3 is synthesized starting from Fmoc-Asp(PEG-PS)-OAl. Cyclic CALP3 is unable to inhibit Ca21 influx, and this peptide served as a negative control. Cyclic CALP3 does not inhibit the effect of glutamate[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Ferdek PE, et al. BH3 mimetic-elicited Ca2+ signals in pancreatic acinar cells are dependent on Bax and can be reduced by Ca^{2+}-like peptides. Cell Death Dis. 2017 Mar 2;8(3):e2640.

[2]. Manion MK, et al. A new type of Ca(2+) channel blocker that targets Ca(2+) sensors and prevents Ca(2+)-mediated apoptosis. FASEB J. 2000 Jul;14(10):1297-306.

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