

TAT-DEF-Elk-1

Cat. No.:	HY-P2262
CAS No.:	1220751-16-5
Molecular Formula:	C ₁₅₅ H ₂₅₉ N ₅₇ O ₄₀
Molecular Weight:	3561.07
Sequence Shortening:	GRKKRRQRRRPPSPAKLSFQFPSSGSAQVHI
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	TAT-DEF-Elk-1 (TDE) is a cell-penetrating peptide inhibitor of Elk-1, mimics and specifically interferes with the DEF domain of Elk-1. TAT-DEF-Elk-1 blocks Elk-1 phosphorylation and prevents Elk-1 nuclear translocation without interfering with ERK nor MSK1 activation. TAT-DEF-Elk-1 is a useful tool to analyze the role of Elk-1 in this process during the development of neuronal plasticity ^[1] .																
IC₅₀ & Target	IC ₅₀ : Elk-1 ^[1]																
In Vitro	<p>Elk-1 phosphorylation on Ser383/389 has a dual function and triggers both Elk-1 nuclear translocation and SRE-dependent gene expression^[1].</p> <p>TAT-DEF-Elk-1 (5-10 μM; 1 hour) specifically inhibits glutamate-induced elk-1 activation and does not interfere with ERK, MSK-1, or CREB phosphorylation^[1].</p> <p>TAT-DEF-Elk-1 (5 μM; 2 hour) treatment shows a significant inhibition of c-Fos, Zif268 and JunB, but has no effects on c-Jun expression^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Neurons</td> </tr> <tr> <td>Concentration:</td> <td>5 μM; 10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>1 hour</td> </tr> <tr> <td>Result:</td> <td>Decreased Elk-1 expression and had no effects on ERK, MSK-1, or CREB phosphorylation.</td> </tr> </table> <p>RT-PCR^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Primary striatal neurons</td> </tr> <tr> <td>Concentration:</td> <td>5 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>2 hour</td> </tr> <tr> <td>Result:</td> <td>Decreased c-Fos, Zif268 and JunB mRNA level but did not effect c-Jun.</td> </tr> </table>	Cell Line:	Neurons	Concentration:	5 μM; 10 μM	Incubation Time:	1 hour	Result:	Decreased Elk-1 expression and had no effects on ERK, MSK-1, or CREB phosphorylation.	Cell Line:	Primary striatal neurons	Concentration:	5 μM	Incubation Time:	2 hour	Result:	Decreased c-Fos, Zif268 and JunB mRNA level but did not effect c-Jun.
Cell Line:	Neurons																
Concentration:	5 μM; 10 μM																
Incubation Time:	1 hour																
Result:	Decreased Elk-1 expression and had no effects on ERK, MSK-1, or CREB phosphorylation.																
Cell Line:	Primary striatal neurons																
Concentration:	5 μM																
Incubation Time:	2 hour																
Result:	Decreased c-Fos, Zif268 and JunB mRNA level but did not effect c-Jun.																

In Vivo

TAT-DEF-Elk-1 (intraperitoneal injection; 1mg/kg; daily; 14 days) reflects antidepressant efficacy in mice, it decreases immobility similar to the reference antidepressants fluoxetine and desipramine (DMI)^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57Bl6 mice (3-6 months old males) are subjected to social defeat stress ^[2]
Dosage:	1mg/kg;
Administration:	Intraperitoneal injection; daily; 14 days
Result:	Reversed social-defeat induced decrease of hippocampal Bdnf expression by repeated TDE administration.

CUSTOMER VALIDATION

- Research Square Preprint. 2022 Jan.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Lavaur J, et al. A TAT-DEF-Elk-1 peptide regulates the cytonuclear trafficking of Elk-1 and controls cytoskeleton dynamics. J Neurosci. 2007 Dec 26;27(52):14448-58.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA