Product Data Sheet

Product Name: TAT-DEF-Elk-1 TFA
Cat. No.: GC60353

Chemical Properties

Cas. No.			
Formula	$C_{157}H_{260}N_{57}F_3O_{42}$	M.Wt	3675.09
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	TAT-DEF-Elk-1 TFA		

Background

TAT-DEF-Elk-1 TFA (TDE TFA) is a cell-penetrating peptide inhibitor of Elk-1, mimics and specifically interferes with the DEF domain of Elk-1. TAT-DEF-Elk-1 TFA blocks Elk-1 phosphorylation and prevents Elk-1 nuclear translocation without interfering with ERK nor MSK1 activation. TAT-DEF-Elk-1 TFA is a useful tool to analyze the role of Elk-1 in this process during the development of neuronal plasticity[1].

Elk-1 phosphorylation on Ser383/389 has a dual function and triggers both Elk-1 nuclear translocation and SRE-dependent gene expression[1].TAT-DEF-Elk-1 TFA (5 μM; 1 hour) specifically inhibits glutamate-induced elk-1 activation and does not interfer with ERK, MSK-1, or CREB phosphorylation[1].TAT-DEF-Elk-1 TFA (5-10 μM; 2 hour) treatment shows a significant inhibition of c-Fos, Zif268 and JunB, but has no effects on c-Jun expression[1]. Western Blot Analysis[2] Cell Line: Neurons

TAT-DEF-Elk-1 TFA (intraperitoneal injection; 1mg/kg; daily; 14 days) reflects antidepressant efficacy in mice, it decreases immobility similar to the reference antidepressants fluoxetine and desipramine (DMI)[1]. Animal Model: C57Bl6 mice (3-6 months old males) are subjected to social defeat stress[2]

[1]. Lavaur J, et al. A TAT-DEF-Elk-1 peptide regulates the cytonuclear trafficking of Elk-1

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and controls cytoskeleton dynamics.J Neurosci. 2007 Dec 26;27(52):14448-58. [2]. Apazoglou K, et al. Antidepressive effects of targeting ELK-1 signal transduction.Nat Med. 2018 May;24(5):591-597.

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