Data Sheet

Product Name:	Tat-NR2B9c (TFA)
Cat. No.:	CS-0092329
CAS No.:	1834571-04-8
Molecular Formula:	$C_{105}H_{188}N_{42}O_{30}.C_2HF_3O_2$
Molecular Weight:	2632.90
Target:	iGluR; NO Synthase
Pathway:	Immunology/Inflammation; Membrane Transporter/Ion Channel; Neuronal Signaling
Solubility:	H2O : ≥ 50 mg/mL (18.99 mM)

YGRKKRRQRRRKLSSIESDV (TFA salt)

BIOLOGICAL ACTIVITY:

Tat-NR2B9c TFA (Tat-NR2Bct TFA) is a postsynaptic density-95 (PSD-95) inhibitor, with **EC_{50}** values of 6.7 nM and 670 nM for PSD-95d2 (PSD-95 PDZ domain 2) and PSD-95d1, respectively. Tat-NR2B9c TFA disrupts the PSD-95/NMDAR interaction, inhibiting NR2A and NR2B binding to PSD-95 with **IC_{50}** values of 0.5 μM and 8 μM, respectively. Tat-NR2B9c TFA also inhibits neuronal nitric oxide synthase (nNOS)/PSD-95 interaction, and possesses neuroprotective efficacy[1]. IC50 & Target: EC50: 6.7 nM (PSD-95d2), 670 nM (PSD-95d1)[1]

NO synthase[1] **In Vitro:** Tat-NR2B9c is a PSD-95 inhibitor, with an EC_{50} of 6.7 nM for PSD-95d2, representing a >100-fold higher affinity for this domain than for PSD-95d1 (EC_{50}, 0.67 μM). Tat-NR2B9c inhibits NMDAR2A, NMDAR2B, and NMDAR2C binding to PSD-95, with IC_{50}s of 0.5 μM, □8 μM, and 0.75 μM, respectively.

Tat-NR2B9c also blocks the interaction between PSD-95 and nNOS with an IC_{50} of □0.2 μM[1].

Tat-NR2B9c reduces association of PSD-95 with GluN2B by □50% in the YAC128 striatum, decreases NMDA-induced p38 activation in YAC128 striatal tissue, but shows no effect on the NMDA-induced JNK activation[2].

In Vivo: Tat-NR2B9c (10 nmol/g, i.v.) reduces infarction volume of male C57BL/6 mice, but has no effect at 3 nmol/g[3].

References:

[1]. Cui H, et al. PDZ protein interactions underlying NMDA receptor-mediated excitotoxicity and neuroprotection by PSD-95 inhibitors. J Neurosci. 2007 Sep 12;27(37):9901-15.

[2]. Fan J, et al. P38 MAPK is involved in enhanced NMDA receptor-dependent excitotoxicity in YAC transgenic mouse model of Huntington disease. Neurobiol Dis. 2012 Mar;45(3):999-1009.

CAIndexNames:

Tat-NR2B9c (TFA)

SMILES:

[YGRKKRRQRRRKLSSIESDV (TFA salt)]

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

Tel: 610-426-3128 Fax: 888-484-5008 E-mail: sales@ChemScene.com

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