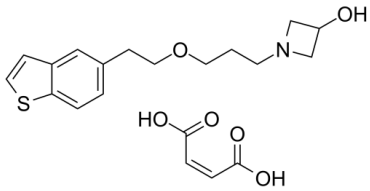
Data Sheet

Product Name:	Edonerpic maleate
Cat. No.:	CS-8069
CAS No.:	519187-97-4
Molecular Formula:	C20H25NO6S
Molecular Weight:	407.48
Target:	Amyloid-β
Pathway:	Neuronal Signaling
Solubility:	DMSO : 100 mg/mL (245.41 mM; Need ultrasonic); H2O : 100 mg/mL (245.41 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Edonerpic maleate is a novel neurotrophic agent which can inhibit **amyloid-β peptides** (**Aβ**). IC50 & Target: amyloid-β peptides[1] **In Vitro:** Edonerpic maleate (T-817MA) treatment preserves the cortical neurons in the presence of Aβ(1-42). Twenty-four hours of pretreatment, followed by the continuous presence of Edonerpic maleate, prevents oxidative stress-induced neuronal death at 0.1 and 1 μM. Edonerpic maleate almost completely prevents GSH reduction at 0.1 and 1 μM. Hippocampal slices with 1 μM Edonerpic maleate treatment generate more and much longer neurites than control slices. Edonerpic maleate significantly increases the neurite length at 0.1 and 1 μM[1]. **In Vivo:** The post hoc test indicates that the mean density of PSA-positive cells is significantly larger in the vehicle and Aβ infusion+high-dose Edonerpic maleate (T-817MA) groups than that in the Aβ infusion control group ($P<0.01$). The results indicate that the vehicle and Aβ infusion+high-dose Edonerpic maleate groups display efficient learning in the place learning task (PLT), while these two groups also display vigorous neurogenesis. Treatment with Edonerpic maleate and donepezil does not increase the mean density of normal granule cells; there are no significant differences in the mean granule cell density among the Aβ infusion control, Aβ infusion+high-dose Edonerpic maleate, Aβ infusion+low-dose Edonerpic maleate and Aβ infusion+donepezil groups[2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [1]A cortical neuron/glia coculture is prepared. Edonerpic maleate (T-817MA) is added to the cocultures at concentrations of 0 (control), 0.01, 0.1, and 1 μM, and the cells are subsequently incubated for 5 min or 24 h. H_2O_2 is then added to the coculture at a concentration of 100 μM, and the cells are incubated for another 24 h. For the normal group, the preparations are maintained in the medium with neither Edonerpic maleate nor H_2O_2. Neuronal cell viability is quantified by measuring the Monoclonal anti-microtubule-associated protein 2 (MAP2) immunoreactivity[1]. **Animal Administration:** Edonerpic maleate (T-817MA) (high-dose: 8.4 mg/kg and low-dose: 0.84 mg/kg) and donepezil (0.5 mg/kg) are dissolved in distilled water in a volume of 5 mL/kg.[2]Wistar rats (7 weeks, n=47) are used in this study. All rats are given food and water ad libitum in a clear cage and handled on three consecutive days before start of the experiments. The housing area is provided a temperature-controlled environment under a 12/12 h light cycle. These rats are divided into five groups: vehicle (n=11), Aβ infusion control (n=10), Aβ infusion+high-dose Edonerpic maleate (T-817MA) (8.4 mg/kg) (n=11), Aβ infusion+low-dose Edonerpic maleate (0.84 mg/kg) (n=9) and Aβ infusion+donepezil (0.5 mg/kg) (n=7)[2].

References:

[1]. Hirata K, et al. A novel neurotrophic agent, T-817MA [1-<3-[2-(1-benzothiophen-5-yl) ethoxy] propyl>-3-azetidinol maleate], attenuates amyloid-beta-induced neurotoxicity and promotes neurite outgrowth in rat cultured central nervous system neurons. J Pharmacol Exp Ther. 2005 Jul;314(1):252-9.

[2]. Kimura T, et al. T-817MA, a neurotrophic agent, ameliorates the deficits in adult neurogenesis and spatial memory in rats infused i.c.v. with amyloid-beta peptide. Br J Pharmacol. 2009 Jun;157(3):451-63.

CAIndexNames:

3-Azetidinol, 1-[3-(2-benzo[b]thien-5-ylethoxy)propyl]-

SMILES:

OC1CN(CCCOCCC2=CC=C3C(C=CS3)=C2)C1.O=C(O)/C=C\C(O)=O

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