Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

S-MTC

Catalog No: tcsc0035367

Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Specifications

CAS No:
156719-41-4

Formula:
$C_7H_{15}N_3O_2S$

Pathway:
Immunology/Inflammation

Target:
NO Synthase

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Observed Molecular Weight:
205.28

Product Description

S-MTC is a selective type I nitric oxide synthase (**NOS**) inhibitor.

IC50 & Target: NOS[1]

In Vitro:

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S-MTC (10 or 100 μM) reduces cellular NO release in the absence of $A\beta_{1-42}$. At 100 μM, S-MTC decreases cell viability. S-MTC (100 μM) significantly lowers nitrite production (11.2±1.1 μM) when compared to control (no NOS inhibitor exposure; 19.6±1.2 μM). Nitrite productions after $A\beta_{1-42}$ and L-NOARG (100 μM) or $A\beta_{1-42}$ and S-MTC (100 μM) treatments are significantly lower than $A\beta_{1-42}$ alone (33.5±2.0 and 34.5±1.6 μM, respectively). S-MTC (100 μM) is able to significantly reduce nitrite production (25.2±1.1 μM) as compared to $A\beta_{1-42}$ treatment alone (38.3±2.7 μM), when administered after $A\beta_{1-42}$ at the 1 h time point. S-MTC (100 μM) concentration decreases both MTT (87±1% of control) and NR (80±1% of control, respectively) levels. The co-administration of S-MTC (100 μM) and $A\beta_{1-42}$ significantly reverses the effects of $A\beta_{1-42}$ alone (72±2% vs 61±2% of control)[1].

In Vivo: S-MTC (S-methyl-L-thiocitrulline) is a selective neuronal NOS-inhibitor. Following pretreatment with S-MTC (i.c.v.), the HBO_2-induced antinociception is significantly antagonized. In Experiment #2, different groups of mice are pretreated with naltrexone hydrochloride (NTX) (3.0 mg/kg, i.p.), L-NAME (1.0 μg/mouse, i.c.v.), S-MTC (1.0 μg/mouse, i.c.v.) or N^5-(1-iminoethyl)-L-ornithine (L-NIO) (3.0 mg/kg, s.c.) 15-30 min prior to HBO_2 treatment. The antinociceptive effect assessed 90 min after HBO_2 treatment is completely abolished by NTX and L-NAME, antagonized by two-thirds by S-MTC and largely unaffected by L-NIO (F=25.57, p[2]. At a dose of 0.3 mg/kg, S-MTC (SMTC) causes a rise in mean blood pressure (BP). At doses of 1.0, 3.0 and 10 mg/kg, S-MTC causes falls in heart rate, rises in BP and vasoconstriction in all three vascular beds[3].