

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

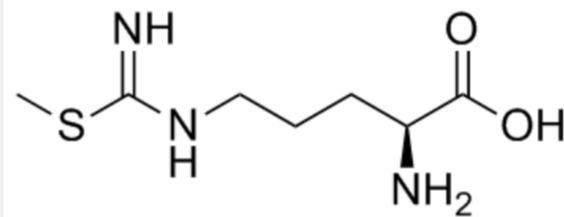
S-MTC is a selective type I nitric oxide synthase (**NOS**) inhibitor.

IC50 & Target: NOS^[1]

In Vitro:

S-MTC (10 or 100 μM) reduces cellular NO release in the absence of $\text{A}\beta_{1-42}$. At 100 μM , S-MTC decreases cell viability. S-MTC (100 μM) significantly lowers nitrite production ($11.2 \pm 1.1 \mu\text{M}$) when compared to control (no NOS inhibitor exposure; $19.6 \pm 1.2 \mu\text{M}$). Nitrite productions after $\text{A}\beta_{1-42}$ and L-NOARG (100 μM) or $\text{A}\beta_{1-42}$ and S-MTC (100 μM) treatments are significantly lower than $\text{A}\beta_{1-42}$ alone (33.5 ± 2.0 and $34.5 \pm 1.6 \mu\text{M}$, respectively). S-MTC (100 μM) is able to significantly reduce nitrite production ($25.2 \pm 1.1 \mu\text{M}$) as compared to $\text{A}\beta_{1-42}$ treatment alone ($38.3 \pm 2.7 \mu\text{M}$), when administered after $\text{A}\beta_{1-42}$ at the 1 h time point. S-MTC (100 μM) concentration decreases both MTT ($87 \pm 1\%$ of control) and NR ($80 \pm 1\%$ of control, respectively) levels. The co-administration of S-MTC (100 μM) and $\text{A}\beta_{1-42}$ significantly reverses the effects of $\text{A}\beta_{1-42}$ alone ($72 \pm 2\%$ vs $61 \pm 2\%$ 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 $\mu\text{g}/\text{mouse}$, i.c.v.), S-MTC (1.0 $\mu\text{g}/\text{mouse}$, 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 (SMTX) 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].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!