

# 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

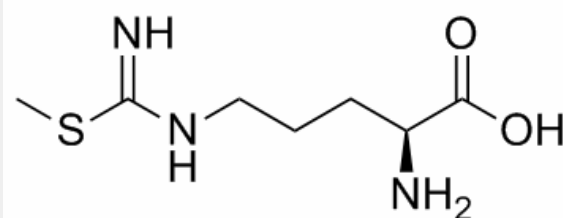
S-MTC is a selective type I nitric oxide synthase (**NOS**) inhibitor.

IC50 & Target: NOS<sup>[1]</sup>

***In Vitro:***

S-MTC (10 or 100  $\mu\text{M}$ ) reduces cellular NO release in the absence of  $\text{A}\beta_{1-42}$ . At 100  $\mu\text{M}$ , S-MTC decreases cell viability. S-MTC (100  $\mu\text{M}$ ) 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  $\mu\text{M}$ ) or  $\text{A}\beta_{1-42}$  and S-MTC (100  $\mu\text{M}$ ) treatments are significantly lower than  $\text{A}\beta_{1-42}$  alone ( $33.5 \pm 2.0$  and  $34.5 \pm 1.6 \mu\text{M}$ , respectively). S-MTC (100  $\mu\text{M}$ ) 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  $\mu\text{M}$ ) 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  $\mu\text{M}$ ) 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)<sup>[1]</sup>.

**In Vivo:** S-MTC (S-methyl-L-thiocitrulline) is a selective neuronal NOS-inhibitor. Following pretreatment with S-MTC (i.c.v.), the  $\text{HBO}_2$ -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  $\text{N}^5$ -(1-iminoethyl)-L-ornithine (L-NIO) (3.0 mg/kg, s.c.) 15-30 min prior to  $\text{HBO}_2$  treatment. The antinociceptive effect assessed 90 min after  $\text{HBO}_2$  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 (SMTTC) 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<sup>[3]</sup>.



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