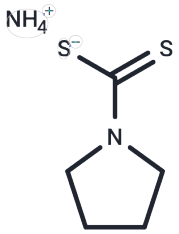
Data Sheet (Cat.No.T3147)

TargetMol

Pyrrolidinedithiocarbamate ammonium

Chemical Properties



CAS No. : 5108-96-3

Formula: C5H12N2S2

Molecular Weight: 164.29

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Pyrrolidinedithiocarbamate ammonium (1-Pyrrolidinedithiocarboxylic acid ammonium salt), a selective NF-κB inhibitor, inhibits translation of nitric oxide synthase mRNA to prevent induction.
Targets(IC50)	NF-κB
In vitro	Pretreatment of cells with PDTC (3-1000 mM) dose-dependently attenuate IL-8 production. Furthermore, PDTC (100 mM) suppresses the accumulation of IL-8 mRNA. PDTC inhibites the activation of NF-kB, because PDTC suppresses both NF-kB DNA binding and NF-kB-dependent transcriptional activity. Taken together, our data demonstrate that NF-kB inhibition with PDTC decrease IL-8 production by intestinal epithelial cells[1].
In vivo	The DSS+PDTC-treated group II exhibited suppression of shortening of intestinal length and reduction of DAI score. Activated NF-κB level and IL-1β and TNF-α levels are significantly lower in DSS+PDTC-treated group II . These findings suggest that suppression of NF-κB activity by PDTC can delay the healing of mucosal tissue defects (erosions or ulcers) arising from inflammation, but that it can strongly suppress the expression of inf-lammatory cytokines (IL-1β and TNF-α), resulting in significant alleviation of colitis. PDTC is useful for the treatment of ulcerative colitis[2].
Kinase Assay	All binding studies are performed in an HTRF assay buffer consisting of dPBS supplemented with 0.1% (with v) bovine serum albumin and 0.05% (v/v) Tween-20. For the PD-l-Ig/PD-Ll-His binding assay, inhibitors are pre-incubated with PD-Ll-His (10 nM final) for 15 m in 4 μL of assay buffer, followed by addition of PD-l-Ig (20 nM final) in 1 μL of assay buffer and further incubation for 15 m. PD-L1 from either human, cyno, or mouse are used. HTRF detection is achieved using europium crypate-labeled anti- Ig (1 nM final) and allophycocyanin (APC) labeled anti-His (20 nM final). Antibodies are diluted in HTRF detection buffer and 5 μL is dispensed on top of binding reaction. The reaction mixture is allowed to equilibrate for 30 minutes and signal (665 nm/620 nm ratio) is obtained using an En Vision fluorometer. Additional binding assays are established between PD-1-Ig/PD-L2-His (20, 5 nM, respectively), CD80-His/PD-Ll-Ig (100, 10 nM, respectively) and CD80-His/CTLA4-Ig (10, 5 nM, respectively).
Cell Research	The human colon cancer cell line HT-29 is obtained and cells are grown in modified McCoy's 5A medium supplemented with 10% fetal bovine serum. To study the effect of PDTC on IL-8 production, HT-29 cells in 96-well plates are induced with 20 ng/mL of IL-1b for 18 h. Various concentrations (3-1000 mM) of PDTC or its vehicle (culture medium)

are added to the cells 30 min prior to IL-1b stimulation. The concentration of IL-8 in the supernatant is determined using solid-phase enzyme-linked immunosorbent assay, as described previously employing the multiple antibody sandwich principle that specifically detects human IL-8[1].

Solubility Information

Solubility	DMSO: 75 mg/mL (456.51 mM),Sonication is recommended. 5% DMSO+95% Saline: 0.6 mg/mL (3.65 mM),Solution. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.0868 mL	30.434 mL	60.868 mL
5 mM	1.2174 mL	6.0868 mL	12.1736 mL
10 mM	0.6087 mL	3.0434 mL	6.0868 mL
50 mM	0.1217 mL	0.6087 mL	1.2174 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Qin, J., Cao, Z., Li, X., Kang, X., Xue, Y., & Li, Y. et al. (2014). Effect of ammonium pyrrolidine dithiocarbamate (PDTC) on NF-κB activation and CYP2E1 content of rats with immunological liver injury. Pharmaceutical Biology, 52 (11), 1460-1466. doi: 10.3109/13880209.2014.898075
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