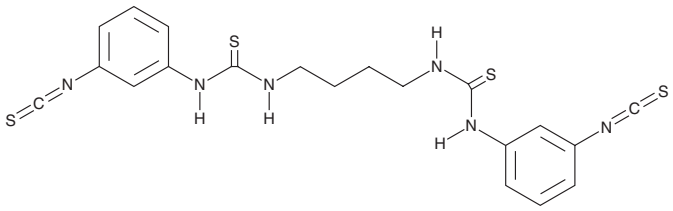
PRODUCT INFORMATION

MRS2578

Item No. 19704

CAS Registry No.:	711019-86-2
Formal Name:	N,N''-1,4-butanediyl*bis*[N'-(3-isothiocyanatophenyl)-thiourea
MF:	$C_{20}H_{20}N_6S_4$
FW:	472.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 217, 273 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MRS2578 is supplied as a crystalline solid. A stock solution may be made by dissolving the MRS2578 in the solvent of choice, which should be purged with an inert gas. MRS2578 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of MRS2578 in these solvents is approximately 10 and 25 mg/ml, respectively.

MRS2578 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MRS2578 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. MRS2578 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

MRS2578 is an antagonist of the purinergic $P2Y_6$ receptor (IC_{50}s = 37 and 98 nM for human and rat receptors, respectively).[1] It is without effect at other purinergic receptors. MRS2578 is used to study the cellular and physiological roles of $P2Y_6$.[2-5]

References

1. Mamedova, L.K., Joshi, B.V., Gao, Z.-G., *et al.* Diisothiocyanate derivatives as potent, insurmountable antagonists of $P2Y_6$ nucleotide receptors. *Biochem. Pharmacol.* **67(9)**, 1763-1770 (2004).
2. Koizumi, S., Shigemoto-Mogami, Y., Nasu-Tada, K., *et al.* UDP acting at $P2Y_6$ receptors is a mediator of microglial phagocytosis. *Nature* **446(78139)**, 1091-1095 (2007).
3. Kukulski, F., Ben Yebdri, F., Lefebvre, J., *et al.* Extracellular nucleotides mediate LPS-induced neutrophil migration *in vitro* and *in vivo*. *J. Leukoc. Biol.* **81(5)**, 1269-1275 (2007).
4. Ma, X., Pan, X., Wei, Y., *et al.* Chemotherapy-induced uridine diphosphate release promotes breast cancer metastasis through $P2Y_6$ activation. *Oncotarget* **7(20)**, 29036-29050 (2016).
5. Sil, P., Hayes, C.P., Reaves, B.J., *et al.* $P2Y_6$ receptor antagonist MRS2578 inhibits neutrophil activation and aggregated neutrophil extracellular trap formation induced by gout-associated monosodium urate crystals. *J. Immunol.* **198(1)**, 428-442 (2017).

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