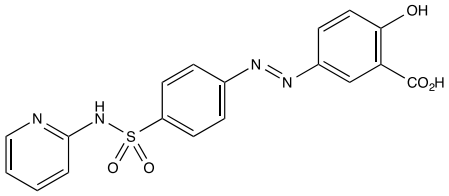
Catalog # 10-4566
Sulfasalazine

CAS# 599-79-1

2-Hydroxy-5-{{4-[(2-pyridinylamino)sulfonyl]phenyl}azo}benzoic acid

Lot # FBA2170



Sulfasalazine is an approved drug with diverse potential applications. Sulfasalzine is a clinically useful agent for the treatment of colitis and ileocolitis.[1] It is metabolized by intestinal bacteria to release the anti-inflammatory agent 5-aminosalicylic acid and the antibacterial agent sulfapyridine. It has also been found to be a specific inhibitor of NFkB (IC_{50} = 500 μM)[2], inhibitor of IL-2 production of activated T lymphocytes[3] and, TNFα and IL-1 synthesis in macrophages[4]. Sulfasalazine has more recently been shown to be inhibitor of the system X_c- cystine-glutamate antiporter.[5,6] It was able to block cystine uptake causing depletion of glutathione resulting in compromised cellular redox defense and ultimately cessation of tumor growth. It has been studied for the treatment of breast, pancreatic, lymphoma, brain and other cancers.

1) Peppercorn (1984), *Sulfasalazine. Pharmacology, clinical use, toxicity, and related drug development;* Ann.Intern.Med **101** 377
2) Wahl *et al.* (1998), *Sulfasalazine: a potent and specific inhibitor of nuclear factor kappa B*; J.Clin.Invest. **101** 1163
3) Sheldon *et al.* (1988), *Effect of sulphasalazine and its metabolites on mitogen induced transformation of lymphocytes – clues to its clinical action?*; Br.J.Rheumatol. **27** 344
4) Fujiwara *et al.* (1990), *Inhibition of proliferation responses and interleukin 2 production by salazosulfapyridine and its metabolites*; Jpn.J.Pharmacol. **54** 121
5) Chung and Sontheimer (2009), *Sulfasalazine inhibits the growth of primary brain tumors independent of nuclear factor-kB;* J.Neurochem. **110** 182
6) Patel *et al.* (2004), Differentiation of substrate and non-substrate inhibitors of transport system X_c - :an obligate exchanger of L-glutamate and L-cystine; Neuropharmacol. **46** 273

PHYSICAL DATA

Molecular Weight:	398.39
Molecular Formula:	$C_{18}H_{14}N_4O_5S$
Purity:	>98%
	NMR: (Conforms)
Solubility:	Soluble in DMSO (>25 mg/ml)
Physical Description:	Orange solid
Storage and Stability:	Store as supplied at room temperature for up to 1 year from the date of purchase. Store solutions at -20ºC for up to 1 month.

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