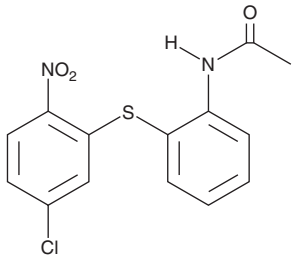
PRODUCT INFORMATION

2-Acetamidophenyl 5-chloro-2-nitrophenyl sulfide

Item No. 18085

CAS Registry No.: 107522-19-0
Formal Name: N-[2-[(5-chloro-2-nitrophenyl) thio]phenyl]-acetamide
Synonym: 2'-(5-chloro-2-nitrophenylthio)-Acetanilide
MF: $C_{14}H_{11}ClN_2O_3S$
FW: 322.8
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 244, 363 nm



Laboratory Procedures

For long term storage, we suggest that 2-acetamidophenyl 5-chloro-2-nitrophenyl sulfide be stored as supplied at -20°C. It should be stable for at least two years.

2-Acetamidophenyl 5-chloro-2-nitrophenyl sulfide is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-acetamidophenyl 5-chloro-2-nitrophenyl sulfide in the solvent of choice. 2-Acetamidophenyl 5-chloro-2-nitrophenyl sulfide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 2-acetamidophenyl 5-chloro-2-nitrophenyl sulfide in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

2-Acetamidophenyl 5-chloro-2-nitrophenyl sulfide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-acetamidophenyl 5-chloro-2-nitrophenyl sulfide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 2-Acetamidophenyl 5-chloro-2-nitrophenyl sulfide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method We do not recommend storing the aqueous solution for more than one day.

Description

2-Acetamidophenyl 5-chloro-2-nitrophenyl sulfide is a sulfide-like inhibitor of phosphodiesterase 7 (PDE7; IC_{50} = 2.1 µM).[1] It is selective for PDE7A, producing only 10-11% inhibition of PDE3A, PDE4D, and PDE4B at 10 µM.[1] It also has no antioxidant activity or inhibitory activity against a panel of protein kinases.[1] Sulfide-like PDE7 inhibitors derived from 2-acetamidophenyl 5-chloro-2-nitrophenyl sulfide have cytoprotective and anti-inflammatory effects on SH-SY5Y neuroblastoma cells without action in a surrogate emesis mouse model.[1]

Reference

1. Garcka, A.M., Brea, J., Morales-Garcia, J.A., *et al*. Modulation of cAMP-specific PDE without emetogenic activity: new sulfide-like PDE7 inhibitors. *J. Med. Chem.* **57(20)**, 8590-8607 (2014).

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