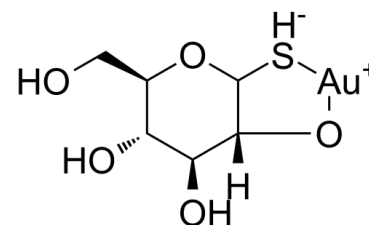


Data Sheet

Product Name:	Aurothioglucose
Cat. No.:	CS-3220
CAS No.:	12192-57-3
Molecular Formula:	C ₆ H ₁₁ AuO ₅ S
Molecular Weight:	392.18
Target:	Others
Pathway:	Others
Solubility:	DMSO : 6 mg/mL (15.30 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Aurothioglucose (Gold thioglucose) is a well known active-site inhibitor of TrxR1, inhibited TrxR1 activity in HeLa cell cytosol but had no effect on the viability of the cells. IC₅₀ value: Target: TrxR1 in vitro: Trx1 redox state and ROS generation were measured in cells exposed to the TrxR1 inhibitors aurothioglucose (ATG) and monomethylarsonous acid (MMA(III)) and in cells depleted of TrxR1 activity by siRNA knock down [1]. in vivo: Adult mice received a single intratracheal dose of 0.375 µg/g lipopolysaccharide (LPS) 12 h before a single intraperitoneal injection of 25 mg/kg ATG. Control mice received intratracheal and/or intraperitoneal saline. ATG treatment significantly attenuated lung injury, increased lung GCLM expression and GSH levels, and decreased mortality. GSH depletion completely prevented the protective effects of ATG in LPS/hyperoxia-exposed mice [2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [1] HeLa cells were cultured in DMEM supplemented with 10% fetal bovine serum, penicillin and streptomycin in a humidified atmosphere containing 5% CO₂. Cells were treated with either aurothioglucose (ATG) or monomethylarsonous acid (MMA(III)) by the addition of a concentrated stock to the culture medium. Both chemical stocks were prepared in water, and control cells received an equal volume of water. Note: all arsenic compounds should be considered as potential human carcinogens. Appropriate precautions should be taken when handling and disposing of these compounds.

References:

[1]. Watson WH, et al. Thioredoxin reductase-1 knock down does not result in thioredoxin-1 oxidation. *Biochem Biophys Res Commun.* 2008 Apr 11;368(3):832-6.

[2]. Britt RD Jr, et al. The thioredoxin reductase-1 inhibitor aurothioglucose attenuates lung injury and improves survival in a murine model of acute respiratory distress syndrome. *Antioxid Redox Signal.* 2014 Jun 10;20(17):2681-91.

CAIndexNames:

Gold, [1-(thio-κS)-D-glucopyranosato-κO₂]-

SMILES:

O[C@@H]1[C@](O[Au+])[SH-]2([H])C2O[C@H](CO)[C@H]1O

Caution: Product has not been fully validated for medical applications. For research use only.

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