Tetraethylthiuram disulfide

Product Number  T 1132
Store at Room Temperature
Replacement for Product Code T1,160-6

Product Description
Molecular Formula:  C_{10}H_{20}N_{2}S_{4}
Molecular Weight: 296.5
CAS Number:  97-77-8
Melting point:  70 ºC
Synonyms:  Disulfiram

Disulfiram reversibly stimulates the Ca^{2+}-ATPase of skeletal muscle sarcoplasmic reticulum. The enzyme is found in the endoplasmic reticulum (ER) membrane and mediates accumulation of calcium ions by the ER. With conditions of 2.1 mM ATP, pH 7.2, 25 ºC, ATPase activity doubled upon addition of 120 µM disulfiram.

Disulfiram is a potent, competitive, and reversible inhibitor of equine hepatic alcohol dehydrogenase. Dissociation constants for the reversible inhibition are 50 µM (pH 7.0) and 30 µM (pH 10.1). It was also found to chemically modify and inactivate the enzyme in an irreversible reaction via the formation of a reversible enzyme disulfiram binary complex with a dissociation constant at pH 7.0 of 30 µM.

A comprehensive review of this compound has been published.

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
Disulfiram is soluble in DMSO (20 mM), water (0.02 g/100 ml), ethanol (3.82 g/100 ml), ether (7.14 g/100 ml), acetone, benzene, chloroform, and carbon disulfide.

References
1. The Merck Index, 12th ed., Entry# 3428.

HLD/RXR  5/03

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