



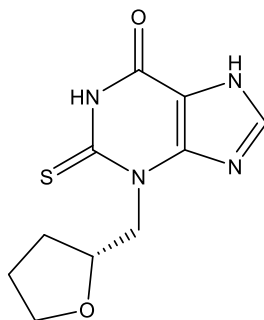
**Catalog # 10-4058**

**AZD5904**

CAS# 618913-30-7

3-[[[(2R)-Oxolan-2-yl]methyl]-2-sulfanylidene-7H-purin-6-one; 3-[[[(2R)-Tetrahydrofuran-2-yl]methyl]-2-thioxo-7H-purin-6-one; TX4

Lot # FBS3015



AZD5904 is a mechanism-based inactivator of myeloperoxidase ( $IC_{50} = 200$  nM), reacting with hydrogen peroxide in neutrophils to inactivate the enzyme.<sup>1</sup> This prevents production of hypochlorous acid and concomitant oxidative stress. Importantly, neutrophil bactericidal activity was slowed but not stopped. AZD5904 did not inactivate thyroid peroxidase or lactoperoxidase. AZD5904 prevented the onset and reversed established high-fat diet induced microvascular insulin resistance.<sup>2</sup> It also alleviated the relaxation defect in hypertrophic induced pluripotent cardiomyocytes *via* restoration of MYBPC3 phosphorylation, suggesting potential therapeutic value in treating hypertrophic cardiomyopathy.<sup>3</sup>

- 1) Tiden *et al.* (2011), *2-Thioxanthines Are Mechanism-based Inactivators of Myeloperoxidase That Block Oxidative Stress during Inflammation*; J. Biol. Chem. **286** 37578
- 2) Chai *et al.* (2019), *Inhibiting myeloperoxidase prevents onset and reverses established high-fat diet-induced microvascular insulin resistance*; Am. J. Physiol. Endocrinol. Metab., **317** E1063
- 3) Ramachandra *et al.* (2022), *Inhibiting cardiac myeloperoxidase alleviates the relaxation defect in hypertrophic cardiomyocytes*; Cardiovasc. Res. **118** 517

#### **PHYSICAL DATA**

Molecular Weight: 252.29  
Molecular Formula:  $C_{10}H_{12}N_4O_2S$   
Purity: >98% by TLC  
NMR: (Conforms)  
Solubility: DMSO (>25 mg/ml)  
Physical Description: Yellow solid  
Storage and Stability: Store as supplied desiccated at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 2 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**

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