Product Name: Florfenicol Amine

Product Number: F027

CAS Number: 76639-93-5

Molecular Formula: C_{10}H_{14}FNO_{3}S

Molecular Weight: 247.3

Form: powder

Appearance: White solid

Solubility: soluble in ethanol, methanol, DMF or DMSO. Limited water solubility.

Storage Conditions: -20°C

Description: Florfenicol Amine is a polar metabolite and degradation product of Florfenicol, specifically formed via hydrolysis of the dichloroacetamide of Florfenicol. Florfenicol Amine has no antibiotic activity but is an important standard for monitoring animal and environmental residues of Florfenicol. Florfenicol Amine is soluble in ethanol, methanol, DMSO and DMF but has limited water solubility.

We also carry:

- Florfenicol (F002)

Mechanism of Action: After entering a bacterial cell, Florfenicol binds to the 50S ribosomal subunit preventing peptide bond formation. Resistance to Florfenicol may be due to decreased cell permeability or a mutation in the 50S ribosomal subunit.

Microbiology Applications: Residues can be detected via liquid chromatography:

- high performance liquid chromatography (HPLC)
- ultra-high performance liquid chromatography (UHPLC)
- ultra-high performance liquid chromatography-electrospray ionization-tandem mass spectrometry (UHPLC-ESI-MS/MS) (ie food samples; chicken muscle)
- reversed-phase high-performance liquid chromatography with fluorescence detection (RP-HPLC-FLD)(ie eggs)

Residues can be detected by gas chromatography:

- Gas chromatography-negative chemical ionization mass spectrometry (GC-NCI/MS) (ie poultry, porcine muscle)
- Gas chromatography with electron capture detection (ie shrimp)
Breast cancer resistance protein (BCRP) is one of the most important ATP-binding cassette superfamily transporters. Although it was discovered in cancer cells and could recognize anticancer agents, it is also expressed in other normal tissues of animals such as the apical membrane of enterocytes, hepatocytes and renal tubular cells where they can limit GI absorption. The US FDA has recommended to include whether a candidate compound is a substrate and/or inhibitor of BCRP during its development for those compounds with a net efflux ratio > 2, since it could be considered as a potential substrate of an efflux pump (Ref 9). Researchers found that Florfenicol is a substrate of BCRP as indicated by the bidirectional transport assay in Madin-Darby canine kidney (MDCK) and MDCK-chABcg2 cells (Liu et al, 2018).

References:


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