Product Name: Dihydrostreptomycin sulfate

Product Number: D003

CAS Number: 5490-27-7

Molecular Formula: \((C_{21}H_{41}N_{7}O_{12})_2 \cdot 3\ H_2SO_4\)

Molecular Weight: 1461.42

Form: Powder

Appearance: White or almost white powder

Solubility: freely soluble in aqueous solution.

Source: Semi-synthetic

pH: 4.5-7.0

Storage Conditions: 2-8°C

Description: Dihydrostreptomycin sulfate, a derivative of streptomycin, is a semi-synthetic aminoglycoside with bactericidal properties. The antibiotic interferes with bacterial protein synthesis and is commonly used to study aminoglycoside uptake. It is freely soluble in aqueous solution.

Mechanism of Action: Aminoglycosides target the 30S ribosomal subunit (irreversible binding to S12 protein) resulting in an inability to read mRNA since this interferes with the initiation complex between the mRNA and the bacterial ribosome. This leads to the synthesis of faulty proteins which results in death of the bacterial cell.

Dihydrostreptomycin inhibited the induction of beta-galactosidase in *E. coli*. It also caused accumulation of pyruvate, similar to known inhibitors of terminal respiration (Bragg and Polglase 1963).

Spectrum: Active against most Gram-positive and Gram-negative organisms, and *Mycobacterium*.

Microbiology Applications

**Media Supplements**

Dihydrostreptomycin can be used as a selective agent in several types of isolation media:

- **STAA Agar** - STAA Selective Supplement
- **STAA Agar** - STA Selective Supplement
References:


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