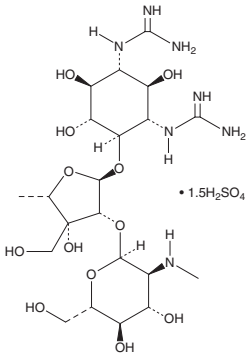
PRODUCT INFORMATION

Dihydrostreptomycin (sulfate)

Item No. 27879



CAS Registry No.:	5490-27-7
Formal Name:	O-2-deoxy-2-(methylamino)-α-L-glucopyranosyl-(1→2)-O-5-deoxy-3-C-(hydroxymethyl)-α-L-lyxofuranosyl-(1→4)-N^1,N^3-*bis*(aminoiminomethyl)-D-streptamine, sulfate (2:3)
MF:	$C_{21}H_{41}N_7O_{12} \bullet 1.5H_2SO_4$
FW:	730.7
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Dihydrostreptomycin (sulfate) is supplied as a crystalline solid. Aqueous solutions of dihydrostreptomycin (sulfate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of dihydrostreptomycin (sulfate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Dihydrostreptomycin is an aminoglycoside antibiotic and a derivative of streptomycin (Item No. 21211).[1] It is active against *B. subtilis*, *K. pneumoniae*, *S. marcescens*, *S. aureus*, *P. aeruginosa*, and *M. tuberculosis* (MICs = 0.07, 0.08, 0.09, 0.06, 0.8, and 5.7 µg/ml, respectively). It interferes with bacterial protein synthesis by binding the 30S ribosomal subunit.[2] Dihydrostreptomycin enhances phagocytosis and intracellular killing of *E. coli* by isolated mouse peritoneal macrophages.[3] It improves survival in a mouse model of *S. aureus* infection.[4] Formulations containing dihydrostreptomycin have been used in the prevention and treatment of bacterial infections in livestock.

References

1. Donovick, R. and Rake, G. Studies on some biological aspects of dihydrostreptomycin. *J. Bacteriol.* **53(2),** 205-211 (1947).
2. Kaji, H. and Tanaka, Y. Binding of dihydrostreptomycin to ribosomal subunits. *J. Mol. Biol.* **32(2)**, 221-230 (1968).
3. Adam, D., Staber, F., Belohradsky, B.H., *et al.* Effect of dihydrostreptomycin on phagocytosis of mouse-peritoneal macrophages in vitro. *Infect. Immun.* **5(4)**, 537-541 (1972).
4. Waksman, S.A., Frankel, J., and Graessle, O. The in vivo activity of neomycin. *J. Bacteriol.* **58(2)**, 229-237 (1949).

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