



Gentamicin X2 sulfate, EvoPure® PRODUCT DATA SHEET

issue date 11/16/2019

Product Name:	Gentamicin X2 sulfate, EvoPure®
Product Number:	G036
CAS Number:	36889-17-5
Molecular Formula:	$C_{19}H_{38}N_4O_{10} \cdot xH_2SO_4$ (lot specific)
Molecular Weight:	482.52 g/mol (Free base)
Appearance:	White powder
Solubility:	Soluble
Source:	<i>Micromonospora</i> spp.
pH:	6.0-7.0
Storage Conditions:	-20°C
Description:	<p>Gentamicin X2 sulfate, EvoPure® is ≥98.0% pure Gentamicin X2 sulfate. Gentamicin X2 sulfate can be used to study the Gentamicin biosynthetic pathway. This compound is considered a minor component of Gentamicin, which account for 20% of Gentamicin. Minor components contain hydroxy groups in the 3' and 4' positions of the purpurosamine (2-amino-hexose) ring, whereas major components do not.</p> <p>For more Gentamicin products, click here.</p>
Mechanism of Action:	Aminoglycosides target the 30S ribosomal subunit resulting in an inability to read mRNA ultimately producing a faulty or nonexistent protein.
Spectrum:	Gentamicin is a broad-spectrum antibiotic targeting a wide variety of Gram-positive and Gram-negative bacteria. It is effective against several strains of <i>Mycoplasma</i> .
Microbiology Applications	<p>Gentamicin EvoPure® compounds can be used to study effects of individual Gentamicin components on various bacterial strains.</p> <p>Aminoglycosides are a widespread and versatile group of bioactive natural products. Most studies on the mechanisms of Gentamicin toxicity have used the commercial mixture, despite evidence that an individual component of the Gentamicin mixture may have lower toxicity. By defining the enzymes involved in the biosynthetic pathway, you could deliver single components. Gentamicin X2 from TOKU-E, a known substrate for C-methylation from G418 catalyzed by the enzyme GenK, may undergo oxidation from an aldehyde, catalyzed by the enzyme GenQ. (Guo et al, 2014).</p>
Technical Data:	HPLC, NMR, FTIR, and MS analysis may be available. For more info, please email info@toku-e.com .

References:

Davis, BD (1987) Mechanism of Bactericidal Action of Aminoglycosides. Microbiol. Rev. 51(3): 341-350 PMID 3312985

Guo J et al (2014) Specificity and promiscuity at the branch point in gentamicin biosynthesis. Chem. Biol. 21(5):608-618. PMID 24746560

Stypulkowska K, Blazewicz A, Fijalek Z, Sarna K (2010) Determination of gentamicin sulphate composition and related substances in pharmaceutical preparations by LC with charged aerosol detection. Chromatograph. 72(11-12):1225-1229 PMID 21212825

Vydrin, AF (2003) Component composition of gentamicin sulfate preparations. Pharma. Chem. J 37(8): 448-449

Weinstein, MJ, Wagman GH, Oden EM and Marquez JA (1967) Biological activity of the antibiotic components of the gentamicin complex. J. Bacteriol. 94(3):789-790 PMID 4962848

If you need any help, contact us: info@toku-e.com. Find more information on: www.toku-e.com/