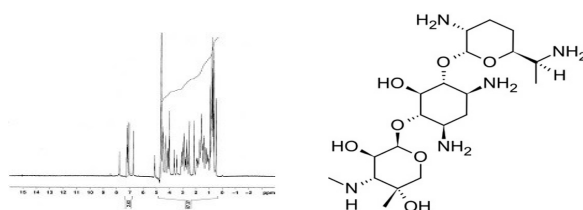


<b>Product Name:</b>	Gentamicin C2a sulfate, EvoPure®
<b>Product Number:</b>	G034
<b>CAS Number:</b>	38539-12-7; 59751-72-3 (free base)
<b>Molecular Formula:</b>	$C_{20}H_{41}N_5O_7 \cdot xH_2SO_4$ (lot specific)
<b>Molecular Weight:</b>	463.57 g/mol (Free base)
<b>Form:</b>	Powder
<b>Appearance:</b>	White or off-white powder
<b>Source:</b>	<i>Micromonospora</i> spp.
<b>pH:</b>	3.5-5.5
<b>Storage Conditions:</b>	-20°C
<b>Description:</b>	<p>Gentamicin C2a sulfate, EvoPure® is ≥95.0% pure Gentamicin C2a and can be used to study the Gentamicin biosynthetic pathway. Gentamicin C2a is a component of the Gentamicin C complex, along with <u>Gentamicin C1</u> and <u>Gentamicin C1a</u>, and together this complex makes up 80% of the compound and has the highest antibacterial activity. Gentamicin C2a and C2 are stereoisomers. The higher antimicrobial activity of the complex is thought to arise from the lack of hydroxy groups on the 3' and 4' positions of the purpurosamine (2-amino-hexose) fragments.</p> <p>For more Gentamicin products, <a href="#">click here</a>.</p>
<b>Mechanism of Action:</b>	Aminoglycosides target the 30S ribosomal subunit resulting in an inability to read mRNA ultimately producing a faulty or nonexistent protein.
<b>Spectrum:</b>	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> .
<b>Microbiology Applications</b>	<p>Gentamicin EvoPure® compounds can be used to study effects of individual Gentamicin components on various bacterial strains.</p> <p>Representative MIC values include:</p> <ul style="list-style-type: none"> <li>• <i>Bacillus subtilis</i> ATCC 6633: 0.02 µg/mL</li> <li>• <i>Escherichia coli</i> ATCC 10536: 2.2µg/mL</li> <li>• <i>Staphylococcus aureus</i> ATCC 6538P 1.0 µg/mL</li> </ul>

## Technical Data:

### HNMR Spectra



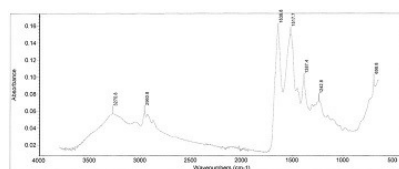
[Click to enlarge](#)

**Solvent:** D<sub>2</sub>O

**Instrument:** Mercury 300

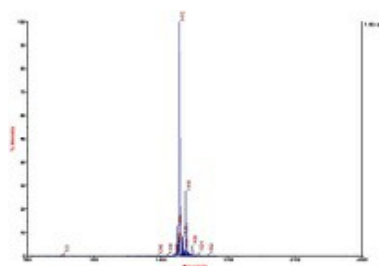
**Frequency:** 300 MHz

### FTIR Spectra



[Click to enlarge](#)

### Mass Spectra



[Click to enlarge](#)

**Polarity/Scan Type:** Positive

**Solvent:** H<sub>2</sub>O

**Solution Concentration:** 10 mg/mL

**References:**

Davis, BD (1987) Mechanism of bactericidal action of aminoglycosides. Microbiol. Rev. 51(3): 341-350 PMID 3312985

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

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