

Product Name:	Kanamycin B Sulfate, EvoPure®
Product Number:	K014
CAS Number:	29701-07-3
Molecular Formula:	$C_{18}H_{37}N_5O_{10} \cdot xH_2SO_4$ (lot specific)
Molecular Weight:	483.51 g/mol (Free base)
Form:	Powder
Appearance:	White to off-white crystalline powder
Solubility:	Freely soluble
Source:	Semi-biosynthetic
Storage Conditions:	-20°C
Description:	<p>Kanamycin is an aminoglycoside antibiotic often used to select for bacteria which have been successfully transformed with a plasmid conferring kanamycin resistance.</p> <p>Kanamycin B sulfate, EvoPure® is ≥99.0% pure by HPLC.</p> <p>Standard grade kanamycin is composed of a mixture of three different fractions: Kanamycin A, B, and C. TOKU-E offers five forms of kanamycin:</p> <ul style="list-style-type: none">• <u>Kanamycin sulfate</u>• Kanamycin acid sulfate (both <u>BP grade</u> and <u>EP grade</u>)• <u>Kanamycin A sulfate, EvoPure®</u>• <u>Kanamycin B, EvoPure®</u> <p>EvoPure® products are purified single antibiotic fractions, most >99% pure. High purity EvoPure® kanamycin products can be used to analyze the specific effects of individual kanamycin fractions.</p> <p>Huang et al. used kanamycin B sulfate, EvoPure® to study the roles of oxidoreductase GenD2 and transaminase GenS2. "<u>Delineating the Biosynthesis of Gentamicin X2, the Common Precursor of the Gentamicin C Antibiotic Complex.</u>"</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:	Kanamycin is a broad spectrum antibiotic, however, it is mostly used against aerobic gram negative bacteria.

Microbiology Applications Kanamycin is commonly used in clinical *in vitro* microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram positive and gram negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include:

- *Salmonella enteritidis* 62.5 µg/mL
- *Escherichia coli* 31.2 µg/mL
- For a complete list of kanamycin MIC values, [click here](#).

Plant Biology Applications

Kanamycin is often used in the *Agrobacterium* mediated transformation while using the npt II gene as selection marker. Kaur and Bansal (2010) used kanamycin in combination with cefotaxime to control bacterial growth while transforming tomato.

Technical Data:

HPLC, NMR, FTIR, and MS analysis may be available. For more info, please email info@toku-e.com.

References:

Davis, Bernard D. "Mechanism of Bactericidal Action of Aminoglycosides." *Microbiological Reviews* 51.3 (1987): 341-50.

United States. National Institutes of Health. *Kanamycin Compound Summary*. *PubChem*. Web. 21 Aug. 2012.

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