



# Neomycin solution (10 mg/mL Neomycin in 0.9% NaCl) PRODUCT DATA SHEET

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<b>Product Name:</b>	Neomycin solution (10 mg/mL Neomycin in 0.9% NaCl)
<b>Product Number:</b>	N027
<b>CAS Number:</b>	1405-10-3
<b>Molecular Formula:</b>	$C_{23}H_{46}N_6O_{13}$
<b>Molecular Weight:</b>	614.64 g/mol
<b>Form:</b>	Solution
<b>Appearance:</b>	Clear solution
<b>Solubility:</b>	Solution
<b>Source:</b>	Mixture
<b>Storage Conditions:</b>	2-8 °C
<b>Description:</b>	<p>Neomycin is a broad spectrum aminoglycoside antibiotic composed of a number of related neomycin compounds including neomycin A (neamine), neomycin B (framycetin), neomycin C, and a few minor compounds found in much lower quantities. Neomycin B is the most active component in neomycin followed by neomycin C and neomycin A. The quantities of these components in neomycin vary from lot-to-lot.</p> <p>Solution contains 10 mg/mL neomycin sulfate in 0.9% NaCl.</p> <p>For more neomycin 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>	Neomycin is a broad spectrum antibiotic, however, it is mostly used against gram negative bacteria.

**Microbiology Applications** The broad spectrum antibiotic neomycin is used as selection agent in the genetic transformation process the same way as kanamycin. The resistance gene (NPT II) used in kanamycin mediated selection is exploited by neomycin mediated selection as well (Aragão, 2009). Neomycin 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:

- *Pseudomonas aeruginosa* 0.5 µg/mL – 64 µg/mL
- *Haemophilus influenzae* 1.6 µg/mL – 6.3 µg/mL
- For a complete list of neomycin MIC values, [click here](#).

In addition to its use in AST, neomycin sulfate is used for food testing in TSN agar to select for *Clostridium perfringens* and inhibit growth of *Enterobacteria* and *Clostridium bifermentans*.

**Plant Biology Applications**

Neomycin is commonly used in negative selections for plants which have been successfully been transformed with a plasmid conferring resistance via *Agrobacterium* mediated transformation.

**References:**

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