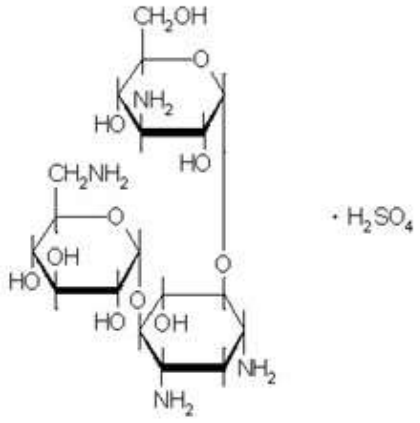
# K378
# Kanamycin Monosulfate

Synonyms: O-3-Amino-3-deoxy-α-D-glucopyranosyl-(1→6)-O-[6-amino-6-deoxy-α-D-glucopyranosyl-(1→4)]-2-deoxy-D-Streptamine Monosulfate
CAS: 25389-94-0
Formula: $C_{18}H_{36}N_4O_{11} \cdot H_2SO_4$
Mol. Weight: 582.6



## Properties

Form: Powder
Appearance: White to Off-white Powder
Application: Plant Tissue Culture Antibiotic
Solubility: Soluble in Water
Storage Temp: Room Temperature
Other Notes: Plant Tissue Culture Tested

## Application Notes

Kanamycin is an aminoglycoside antibiotic derived from *Streptomyces kanamyceticus*. Kanamycin has similar mode of action to those of gentamicin in which it inhibits protein synthesis and elicits miscoding by binding to the 30S subunit and sometimes the 50S subunit of the bacterial ribosome. Kanamycin is effective against Gram-positive and Gram-negative bacteria.[2, 3] It has been reported that cross-resistance occurs between kanamycin and neomycin, framycetin, and paraomomycin, and partial cross-resistance between kanamycin and streptomycin.[2]

It has been reported that the minimum inhibitory concentration (MIC) of kanamycin for *Staphylococcus aureus* is 3.5 mg/L and *Escherichia coli* is 4.5 mg/L.[4]

*Phyto*Technology Laboratories® also carries kanamycin solution at 50 mg/mL (Product No. K586) and 100 mg/mL (Product No. K4751)

Please Note: While *Phyto*Technology Laboratories™ tests each lot of this product with two or more plant cell/ tissue culture lines, it is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

## References

1. *Merck* **13**, 5299
2. *Martindale: The Complete Drug Reference*, 35th ed., Paul S. Blake, Ed. (Royal Pharmaceutical Society, 2007), p. 260.
3. Divyashree BC, Vishwanatha T, Spoorthi N Jain , Reena V, Aishwarya Sampath, Siddhalingeshwara KG, Venugopal N. 2012. Evlaution of in vitro synergy between ampicillin and kanamycin against *Staphylococcus aureus*. *Journal of Drug Delivery & Therapeutics*. Vol 2(4). Pp. 144-146.
4. Pereira, Ana Margarida, Ana Cristina Abreu, and Manuel Simoes. 2012. Action of kanamycin against single and dual species biofilms of *Escherichia coli* and *Staphylococcus aureus*. *Journal of Microbiology Research*. Vol 2(4). Pp. 84-88.

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