

# PRODUCT INFORMATION



## Kasugamycin (hydrochloride)

Item No. 15322

CAS Registry No.: 19408-46-9

Formal Name: 3-O-[2-amino-4-  
[(carboxyiminomethyl)amino]-  
2,3,4,6-tetradeoxy- $\alpha$ -D-arabino-  
hexopyranosyl]-D-chiro-inositol,  
monohydrochloride

MF:  $C_{14}H_{25}N_3O_9 \cdot HCl$

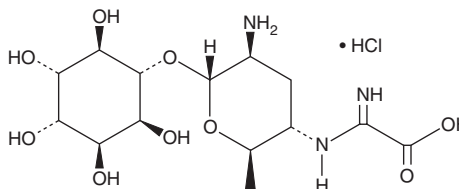
FW: 415.8

Purity:  $\geq 70\%$

Supplied as: A crystalline solid

Storage:  $-20^\circ C$

Stability:  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Kasugamycin (hydrochloride) is supplied as a crystalline solid. Aqueous solutions of kasugamycin (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of kasugamycin (hydrochloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Kasugamycin is an aminoglycoside that has been found in *S. kasugaensis* and has diverse biological activities.<sup>1-3</sup> It is active against *S. dysenteriae*,<sup>1</sup> Kasugamycin (1 kg/ha) reduces the severity of rice sheath blight induced by the plant pathogenic fungi *R. solani* and *C. janseana*-induced rice narrow brown leaf spot, as well as increases rice yield.<sup>2</sup> It also inhibits acidic mammalian chitinase (CHIA), also known as AMCase, with an  $IC_{50}$  value of 4.13  $\mu M$ . Kasugamycin (12.5, 25, 50, or 100 mg/kg every other day) decreases lung collagen levels in a mouse model of pulmonary fibrosis induced by the glycopeptide antitumor antibiotic bleomycin (Item No. 13877).<sup>3</sup> Formulations containing kasugamycin have been used as fungicides in agriculture.

### References

1. Hamada, M., Hashimoto, T., Takahashi, T., et al. Antimicrobial activity of kasugamycin. *J. Antibiot. (Tokyo)* **18**, 104-106 (1965).
2. Uppala, S. and Zhou, X.G. Field efficacy of fungicides for management of sheath blight and narrow brown leaf spot of rice. *Crop Prot.* **104**, 72-77 (2018).
3. Lee, J.-H., Lee, C.-M., Lee, J.H., et al. Kasugamycin is a novel chitinase 1 inhibitor with strong antifibrotic effects on pulmonary fibrosis. *Am. J. Respir. Cell Mol. Biol.* **67(3)**, 309-319 (2022).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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