



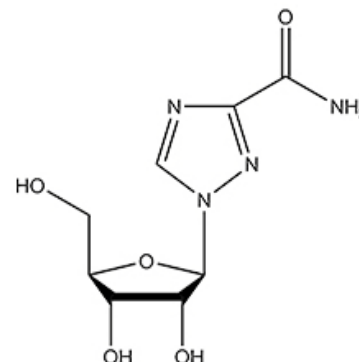
Product Information Sheet

R795 Ribavirin

Synonyms: 1-β-D-Ribofuranosyl-1,2,4-triazole-3-carboxamide;
Virazole
CAS: 36791-04-5
Formula: C₈H₁₂N₄O₅
Mol. Weight: 244.2

Properties

Form: Powder
Appearance: White to Off-White Powder
Application: Plant Tissue Culture Antiviral
Solubility: Soluble in Water
Storage Temp: 2 to 6 °C
Typical Working Concentration: Varies by application; Concentration should be determined by the end user.
Other Notes: Plant Tissue Culture Tested; For Research Use Only



Application Notes

Ribavirin is an antiviral drug that is structurally related to guanine and is effective against most DNA and RNA viruses.² In RNA virus, depending on the rotation of ribavirin's carboxamide group which can resemble adenosine or guanosine to pair with uracil or cytosine, it induces mutation in RNA replication and disrupts RNA duplication process.³ Treatments of ribavirin have been reported to inhibit viruses in various plant species such as potato with *Potato virus M* (PVM), *Potato virus S* (PVS), *Potato virus X* (PVX), and *Potato virus Y* (PVY)³, bamboo with Bamboo mosaic virus (BaMV), and prunus species with *Prunus necrotic ringspot virus*.⁴

Typical working concentration of ribavirin varies by plant species. It has been reported that potato cultivars Binella and Burren treated with ribavirin at 20 mg/L with meristem tips length of 100 μm yielded the highest percentage of virus free plant; however, at a higher concentration of 30 mg/L, these same cultivars exhibited severe growth abnormality.⁵ Similar results were reported in the treatment of green bamboo with BaMV. Green bamboo treated with 20 to 100 mg/L of ribavirin resulted in 7-46% virus elimination, and growth abnormalities were also observed at the high concentration of 100 mg/L.⁶

Please Note: While *PhytoTechnology 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**, 8282
2. *Martindale: The Complete Drug Reference*, 35th ed., Paul S. Blake, Ed. (Royal Pharmaceutical Society, 2007), p. 807.
3. Oana, Danci, Erdei L., Vidacs Livia, Danci M., Baciuc Anca, David I., and Berbentea F. 2009. Influence of ribavirin on potato plants regeneration and virus eradication. *Journal of Horticulture, Forestry and Biotechnology*. 13:421-425.
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5. Almaarri, K., R. Massa, and F. AlBiski. 2012. Evaluation of some therapies and meristem culture to eliminate potato Y potyvirus from infected potato plants. *Plant Biotechnology*. 29:237-243.
6. Chen, T.H. and Y.T. Lu. 2000. Application of ribavirin in tissue culture of green bamboo (*Bambusa oldhamii* Munro) for eradication of *Bamboo mosaic virus*. *Plant Protection Bulletin* (Taipei). 42(3): 159-168.

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