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ProductInformation

Magnesium sulfate heptahydrate

Product Number **M 2773**
Store at Room Temperature

Product Description

Molecular Formula: $MgSO_4 \bullet 7H_2O$
Molecular Weight: 246.5
CAS Number: 10034-99-8

This product is designated as Molecular Biology grade and is suitable for molecular biology applications. It has been analyzed for the absence of nucleases and proteases.

Magnesium sulfate is used in chemistry and molecular biology as a source of magnesium ions. Magnesium has a variety of biological roles in enzymology, cell membrane and wall structural integrity, muscle cell physiology, and nucleic acid structure.[1,2] Magnesium is an essential co-factor in many enzymes, including deoxyribonuclease (DNase), the restriction enzymes *Eco*R I and *Eco*R V, and Ribonuclease H.[3,4] Magnesium also stabilizes polymeric nucleic acids such as transfer RNA and ribozymes.[5]

A protocol for chromosome and nuclei isolation that incorporates $MgSO_4$ has been published.[6] The use of $MgSO_4$ for leukotoxin production from cultured *Pasteurella haemolytica* has been reported.[7]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution.

References

1. Cowan, J. A., in The Biological Chemistry of Magnesium, Cowan, J. A., ed., VCH Publishers (New York: 1995), pp. 1-23.
2. The Biological Chemistry of the Elements, Frausto da Silva, J. J. R., and Williams, R. J. P., Clarendon Press (Oxford, UK: 1991), pp. 243-267.
3. Brooks, J. E., Properties and uses of restriction endonucleases. Methods Enzymol., **152**, 113-129 (1987).
4. Black, C. B., and Cowan, J. A., in The Biological Chemistry of Magnesium, Cowan, J. A., ed., VCH Publishers (New York: 1995), pp. 137-157.
5. Principles of Bioinorganic Chemistry, Lippard, S. J., and Berg, J. M., University Science Books (Mill Valley, CA: 1994), pp. 192-196.
6. Trask, B., and van den Engh, G., Chromosome and nuclei isolation with the $MgSO_4$ procedure. Methods Cell. Biol., **33**, 363-367 (1990).
7. Sun, Y., and Clinkenbeard, K.D., Serum-free culture of *Pasteurella haemolytica* optimized for leukotoxin production. Am. J. Vet. Res., **59(7)**, 851-855 (1998).

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