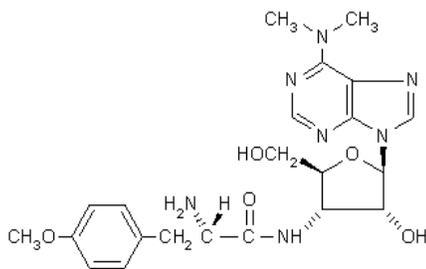


Product Information

Puromycin Ready Made Solution from *Streptomyces alboniger*

Catalog Number **P9620**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN: 53-79-2 (free base)
Synonyms: (S)-3'-[[2-amino-3-(4-methoxyphenyl)-1-oxopropyl]-amino]-3'-deoxy-N,N-dimethyl-adenosine, Stylomycin



Molecular formula: $\text{C}_{22}\text{H}_{29}\text{N}_7\text{O}_5$ (free base)
Molecular weight: 471.51

Product Description

Puromycin belongs to the amino-nucleoside family of antibiotics and is isolated from *Streptomyces alboniger*. Since the partial structure of this antibiotic showed it to be a purine derivative, puromycin was assigned as its generic name.

Puromycin is a broad spectrum antibiotic and antibacterial agent. It is active against Gram-positive microorganisms, less active against acid-fast bacilli, and weakly active against Gram-negative microorganisms.¹ It acts very quickly and can kill 99% of the cells within 2 days. It also exhibits antitumor activity in studies on brain tumor cells.²

Puromycin is a protein synthesis inhibitor that causes premature chain termination by acting as an analog of the 3'-terminal end of aminoacyl-tRNA. It has been used to study transcriptional regulatory mechanisms that control the sequential and coordinate expression of genes during cell differentiation.^{3,4}

This product is a ready-to-use 10 mg/ml solution (as puromycin dihydrochloride) in water, sterile filtered using a $0.2\text{ }\mu\text{m}$ filter. It is tested on HeLa cells for cell growth arrest and selection of cells after transfection of the *pac* resistance gene. HeLa cells were found to be resistant to a concentration of $0.1\text{--}0.3\text{ }\mu\text{g/ml}$ and sensitive to a concentration in the range of $1\text{--}10\text{ }\mu\text{g/ml}$. For selection of *pac*-containing colonies after transfection it is better to use the antibiotic supplemented in the cell medium 2 days after transfection, in the range of $1\text{--}6\text{ }\mu\text{g/ml}$. Colonies will appear 7–10 days after transfection.

The optimal working concentration of puromycin varies between cell lines. Usually, the working concentration for eukaryote cell culture is $1\text{--}10\text{ }\mu\text{g/ml}$.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the product at $-20\text{ }^{\circ}\text{C}$. Under these conditions, the product remains active for two years.

References

1. Antibiotics: origin, nature, and properties, Korzybski, T., et al., American Society for Microbiology (Washington, DC: 1978), pp. 1173-1180.
2. Lee, Y.S., and Wurster, R.D., *Cancer Lett.*, **93**, 157-163 (1995).
3. Manabe I. And Owens, G.K., *Circ. Res.*, **88**, 1127-34 (2001).
4. Marchetti S., et al., *J. Cell Sci.*, **115**, 2075-85 (2002).

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