Product Information

Puromycin dihydrochloride
from Streptomyces alboniger
cell culture tested

Catalog Number P8833
Storage Temperature –20 °C

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

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\text{Molecular formula: } C_{22}H_{29}N_7O_5 \cdot 2\text{HCl}
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Molecular weight: 544.43

Product Description
Puromycin dihydrochloride 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. 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.

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.

The product is tested on HeLa cells for cell growth
arrest and selection of cells after transfection of the pac
resistance gene. The optimal working concentration of
puromycin varies between cell lines. Usually, the
working concentration for eukaryote cell culture is
1–10 µg/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.

Preparation Instructions
The product is soluble in water (50 mg/ml), yielding a
clear, colorless to faint yellow solution. The stock
solution may be passed through a 0.22 µm filter and
stored in aliquots at –20 °C.

It is also soluble in methanol (10 mg/ml).

Storage/Stability
Store the product at –20 °C. Under these conditions,
the powder remains active for four 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.,
3. Manabe I. And Owens, G.K.,

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