

Puromycin Dihydrochloride

Puromycin dihydrochloride is isolated from *Streptomyces alboniger* as a broad-spectrum aminonucleoside antibiotic. Puromycin dihydrochloride is active against gram-positive bacteria and weakly active against gram-negative bacteria.

The mechanism of action involves premature release of nascent polypeptide chains by the addition of Puromycin dihydrochloride to the growing peptide chain. Protein synthesis is inhibited in both prokaryotic and eukaryotic cells that do not express the puromycin-N-acetyl-transferase (*pac*) gene encoding resistance. Puromycin dihydrochloride is as effective as Hygromycin B and G418, and selection can be achieved in 2-3 days.

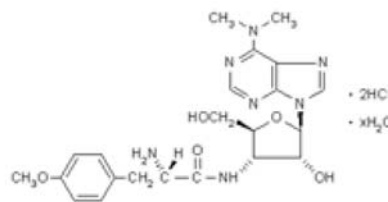
Stock solutions may be prepared by dissolving the antibiotic in deionized water. When filter-sterilized (0.22 micron filter), stock solution may be stored at 4°C for up to 1 year. The stock solution may also be divided into aliquots and stored frozen for greater stability.

The effective killing concentration of the antibiotic will vary as to cell type, media, growth conditions, density, and the cell's metabolic rate and position in the cell cycle. When using Puromycin Dihydrochloride in a new cell system, a full dose curve is suggested, and with each new lot of Puromycin dihydrochloride, several points on that curve should be retested.

Molecular Weight and Formula:

544.4
 $C_{22}H_{29}N_7O_5 \cdot 2HCl$

Molecular Structure:



Mode of Action:

Binds to the 30S ribosomal subunit and affects the fidelity of translation.

Conferred Resistance:

Aminoglycoside-modifying enzymes, a change in cell permeability, or a change in ribosomal structure.

Spectrum:

Gram (+)
 Gram (-) bacilli aerobes and facultative anaerobes, only.

Purity:

≤ 98%

Effective Concentration:

0.5 to 10 µg/mL

Appearance:

White to off-white powder

Storage:

Frozen (-5 to -20°C), protected from light

Product Description	Catalog No.	Size
Puromycin Dihydrochloride, Powder	61-385-RA	1 x 100 mg

References:

¹Data is based on in-house studies.