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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

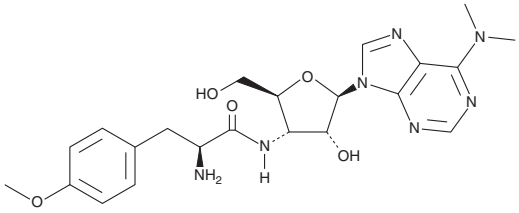
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

Puromycin

Item No. 35841

CAS Registry No.:	53-79-2
Formal Name:	3′-[[(2S)-2-amino-3-(4-methoxyphenyl)-1-oxopropyl] amino]-3′-deoxy-N,N-dimethyl-adenosine
Synonym:	CL 13,900
MF:	$C_{22}H_{29}N_7O_5$
FW:	471.5
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Bacterium/*Streptomyces alboniger*



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Puromycin is supplied as a solid. A stock solution may be made by dissolving the puromycin in the solvent of choice, which should be purged with an inert gas. Puromycin is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide.

Description

Puromycin is a derivative of the glomerular epithelial cell toxin puromycin aminonucleoside (Item No. 15509) and an inhibitor of protein synthesis that has been found in *S. alboniger*.[1-6] Puromycin is structurally similar to the amino acid-bearing end of tRNA, which allows it to enter the ribosome during protein synthesis, bind to the nascent polypeptide chain, and halt chain elongation.[2-4] It inhibits protein synthesis by 99% *in vitro*.[5] Puromycin is also an inhibitor of puromycin-sensitive aminopeptidase (PSA) and aminopeptidase N (APN; IC_{50}s = 9.7 and 41 µM, respectively). It reduces the viability of HL-60 human promyelocytic leukemia and MOLT-4 human acute lymphoblastic leukemia cells (EC_{50}s = 0.055 and 0.17 µM, respectively). Puromycin is active against the chloroquine-sensitive and -resistant *P. falciparum* strains T9-96 and K1 (IC_{50}s = 0.024 and 0.023 µM, respectively).[6] Puromycin has been used as a selective marker in cell culture systems and has been chemically modified for use in labeling or imaging newly synthesized proteins.[7]

References

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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM