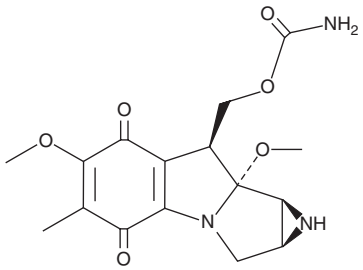
PRODUCT INFORMATION

Mitomycin A

Item No. 20915

CAS Registry No.:	4055-39-4
Formal Name:	(1aS,8S,8aR,8bS)-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-6,8a-dimethoxy-5-methyl-azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione
Synonym:	NSC 75986
MF:	$C_{16}H_{19}N_3O_6$
FW:	349.3
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



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

Laboratory Procedures

Mitomycin A is supplied as a solid. A stock solution may be made by dissolving the mitomycin A in the solvent of choice, which should be purged with an inert gas. Mitomycin A is slightly soluble in methanol and chloroform.

Description

Mitomycin A is a bacterial metabolite originally isolated from *S. caespitosus*.[1] It reduces migration inhibition factor (MIF) production by isolated human lymphocytes when used at a concentration of 0.25 µg/ml and decreases spontaneous migration of WEHI-3 murine monocytes when used at concentrations of 0.5 and 5 µg/ml.[2] Mitomycin A forms intra- and interstrand adducts with DNA in the presence of thiols, such as dithiothreitol (DTT).[3] It reduces tumor growth in P388 leukemia and B16 melanoma mouse models with a minimum effective dose (MED) of 0.05 mg/kg for both but is toxic to mice with an LD_{50} value of 2 mg/kg.[1,4]

References

1. Hata, T., Sano, Y., Sugawara, R., *et al.* Mitomycin, a new antibiotic from Streptomyces. I. *J. Antibiot. (Tokyo)* **9(4)**, 141-146 (1956).
2. van der Nat, J.M., Beijnen, J.H., van Dijk, H., *et al.* Suppression of migration inhibition factor (MIF) production by mitomycins *in vitro*. *Immunobiology* **172(1-2)**, 120-127 (1986).
3. Paz, M.M., Das, A., Palom, Y., *et al.* Selective activation of mitomycin A by thiols to form DNA cross-links and monoadducts: Biochemical basis for the modulation of mitomycin cytotoxicity by the quinone redox potential. *J. Med. Chem.* **44(17)**, 2834-2842 (2001).
4. Sami, S.M., Iyengar, B.S., Remers, W.A., *et al.* Preparation and antitumor activity of new mitomycin A analogues. *J. Med. Chem.* **30(1)**, 168-173 (1987).

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