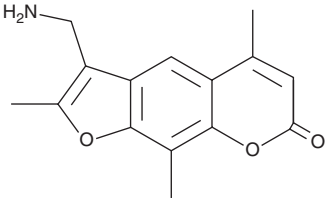
PRODUCT INFORMATION

4'-Aminomethyl-4,5',8-trimethylpsoralen

Item No. 17162

CAS Registry No.:	64358-50-5
Formal Name:	3-(aminomethyl)-2,5,9-trimethyl-7H-furo[3,2-g][1]benzopyran-7-one
Synonym:	4'-Aminomethyltrioxsalen
MF:	$C_{15}H_{15}NO_3$
FW:	257.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 240, 287 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

4'-Aminomethyl-4,5',8-trimethylpsoralen is supplied as a crystalline solid. A stock solution may be made by dissolving the 4'-aminomethyl-4,5',8-trimethylpsoralen in the solvent of choice, which should be purged with an inert gas. 4'-Aminomethyl-4,5',8-trimethylpsoralen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4'-aminomethyl-4,5',8-trimethylpsoralen in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

4'-Aminomethyl-4,5',8-trimethylpsoralen is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4'-aminomethyl-4,5',8-trimethylpsoralen should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4'-Aminomethyl-4,5',8-trimethylpsoralen has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

4'-Aminomethyl-4,5',8-trimethylpsoralen is a bifunctional photoreactive agent for crosslinking nucleic acids.[1,2] In the dark, it intercalates into double-stranded regions in DNA or RNA. Upon long wavelength UV irradiation (*e.g.*, 365 nm), 4'-aminomethyl-4,5',8-trimethylpsoralen first forms a covalent monoadduct with a pyrimidine base, followed by covalently linking with an adjacent pyrimidine on the opposite strand.[1,2] Short wavelength UV irradiation (*e.g.*, 254 nm) reverses this reaction. 4'-Aminomethyl-4,5',8-trimethylpsoralen has a high binding affinity for RNA and has been used to study different types of RNA from diverse organisms, including viruses.[3-5]

References

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2. Garrett-Wheeler, E., Lockard, R.E., and Kumar, A. Mapping of psoralen cross-linked nucleotides in RNA. *Nucleic Acids Res.* **12(7)**, 3405-3423 (1984).
3. Hearst, J.E. and Thiry, L. The photoinactivation of an RNA animal virus, vesicular stomatitis virus, with the aid of newly synthesized psoralen derivatives. *Nucleic Acids Res.* **4(5)**, 1339-1347 (1977).
4. Hui, C.F. and Cantor, C.R. Mapping the location of psoralen crosslinks on RNA by mung bean nuclease sensitivity of RNA-DNA hybrids. *Proc. Natl. Acad. Sci. USA* **82(5)**, 1381-1385 (1985).
5. Raviprakash, K., Sun, P., Raviv, Y., *et al.* Dengue virus photo-inactivated in presence of 1,5-iodonaphthylazide (INA) or AMT, a psoralen compound (4'-aminomethyl-trioxsalen) is highly immunogenic in mice. *Hum. Vaccin. Immunother.* **9(11)**, 2336-2341 (2013).

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