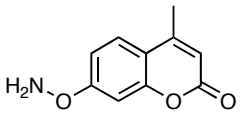
7-*O*-Amino-4-methylumbelliferone
Product No. HC 9070
Product Information



$C_{10}H_9NO_3$
Mol. Wt.: 191.18
5 mg = 26.2 µmol
25 mg = 131 µmol

Coumarin derivatives such as 7-*O*-Amino-4-methylumbelliferone (Product No. HC 9070) have been shown to be useful in a simple spectroscopic assay for aldehydes in biologically relevant media.[1] As shown in Figure 1, condensation of this compound with aldehydes (e.g., formaldehyde) forms aldimines that are susceptible to elimination with Lewis bases such as bovine serum albumin (BSA), forming blue-fluorescent 4-methylumbelliferone (4-MU).

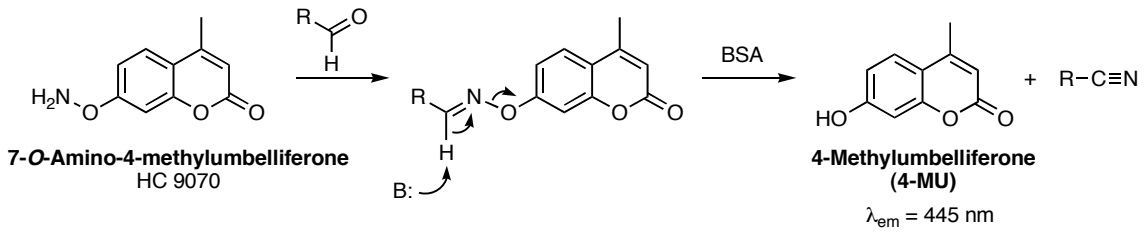


Figure 1. Base-promoted elimination of fluorescent 4-MU from aldimines.

The excitation and emission maxima for 4-MU are the same at pH 7.0 (water) and pH 10.3 (0.15 M glycine buffer).[2] Maximum fluorescence was observed at 445 nm when excited at 365 nm, and the fluorescence intensity is 100 times as intense at pH 10.3 than at pH 7.0.

This compound can be dissolved in 50% aqueous DMF.[1] It is slightly soluble in methanol, ether, chloroform, and water.

Literature

1. Salahuddin, S.; Renaudet, O.; Reymond, J.-L. *Org. Biomol. Chem.* **2004**, *2*, 1471-1475.

2. Strachan, R.; Wood, J.; Hirschmann, R. *J. Org. Chem.* **1962**, *27*, 1074-1075.