

Product Information

Colchicine

Product Number **C 9754**
Store at Room Temperature

Product Description

Molecular Formula: $C_{22}H_{25}NO_6$

Molecular weight: 399.4

pK_a : 1.7 (20 °C)¹, 1.65 (water at 25 °C)²

Melting Point: 142-150 °C^{3,4}, 155-157 °C⁵

λ_{max} : 350.5 nm, 243 nm³

Extinction Coefficient: $E^{mM} = 16.6$ (350.5 nm),
29.5 (243 nm)³

Optical Rotation: -121 (9 mg/ml, chloroform, 17 °C)⁶

Colchicine is an alkaloid obtained from the meadow saffron plant, *Colchicum autumnale* (*Liliaceae*) and other *Colchicum* species.^{1,7} This product is extracted from *Gloriosa superba* seeds or alternatively from *Colchico autumnale* seeds.

At concentrations of 0.1-1 µg/ml, colchicine can cause the mitotic arrest of dividing cells (both plant and animal cells) at metaphase by interfering with microtubule organization, in particular, those of the mitotic spindle.^{4,6,7,8} Tris buffers may interfere with the effects of colchicine on microtubule organization as indicated by the ineffectiveness of colchicine in Tris buffer on the inhibition of cilia regeneration.⁹

Demecolcine (Product No. D 1925) can be used at the same concentration to arrest cells in metaphase as colchicine.

The half-life of colchicine in plasma is about 1 hour.¹

Colchicine can be assayed by HPLC¹⁰ or radioimmunoassay.^{1,11} The tubulin-colchicine complex can be detected by a fluorometric assay.¹²

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

Colchicine can be dissolved in absolute ethanol (50 mg/ml), yielding a clear to slightly hazy, yellow to yellow-green solution (this may require heat).

Colchicine is freely soluble in water (45 mg/ml), chloroform, and benzene (10 mg/ml). Colchicine is slightly soluble in ether (4.5 mg/ml).^{5,13}

Storage/Stability

Colchicine powder will darken upon exposure to light.⁴ Colchicine solutions can be sterilized by autoclaving or filtration.¹³ Sterilized solutions are stable for at least six months if protected from light.¹³

No appreciable colchicine hydrolysis occurred in neutral and slightly alkaline (pH = 8.1) solutions after storage frozen for 2 months.¹³

References

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