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ProductInformation

Colchicine
Plant Cell Culture Tested

Product Number **C 3915**
Store at Room Temperature

Product Description

Molecular Formula: $C_{22}H_{25}NO_6$
Molecular weight: 399.4
CAS Number: 64-86-8
pK_a: 1.7 (20 °C)[1], 1.65 (water at 25 °C)[2]
Melting Point: 142-150 °C[3,4], 155-157 °C[5]
λ_{max}: 350.5 nm, 243 nm[3]
Extinction Coefficient: E^{mM} = 16.6 (350.5 nm), 29.5 (243 nm)[3]
Optical Rotation: -121° (9 mg/ml, $CHCl_3$, 17 °C)[6]

This product is plant cell culture tested (0.5 mg/ml) and is suitable for plant cell culture applications.

Colchicine is an alkloid 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 autunnale* 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 HPLC[10] 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

This product is soluble in absolute ethanol (50 mg/ml), with heat as needed, yielding a clear to slightly hazy, yellow to yellow-green solution. It is also soluble in water (45 mg/ml), chloroform, and benzene (10 g/ml) . Colchicine is slightly soluble in ether (4.5 mg/ml).[5,13]

Storage/Stability

Solutions may be sterilized or autoclaved, and if light-protected, should be stable at 2-8 °C at least six months.

References

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