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\(^3\), 155-157 °C\(^5\)
\( \lambda_{max} \) :  350.5 nm, 243 nm\(^3\)
Extinction Coefficient:  \( E_{\text{mm}} = 16.6 \) (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 *Colchicum 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 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