

Timentin Solution 100 mg/mL

Synonym(s): Betabactyl, Ticarcillin Disodium Salt/Potassium Clavulanate mixture (15:1)
CAS: 4697-14-7/61177-45-5
Formula: $C_{15}H_{14}N_2Na_2O_6S_2/C_8H_8KNO_5$
Molecular Wt: 428.4/237.3 g/mol

Properties

Form: Powder (T869), Aqueous Solution (T767, T7689)
Appearance: Off-white to Yellow Powder (T869), Clear-Colorless Solution (T767, T7689)
Application: Plant Tissue Culture Antibiotic
Solubility: >100 g/L in water
Typical Working Concentration: 50-200 mg/L
Storage Temp: 2 to 6°C (T869), -20°C (T767, T7689)
Storage Temp of Stock Solution: -20 to 0°C
Other Notes:

Application Notes

Timentin is a mixture of ticarcillin and clavulanic acid. Ticarcillin is a broad spectrum semi-synthetic penicillin with greater antibacterial activity toward gram negative rod-shaped bacteria than gram positive cocci (Brogden *et al.* 1980). Clavulanic acid is a β -Lactamase competitive inhibitor which confers stability to β -lactam ring-containing antibiotics (e.g. penicillin, ticarcillin, cefotaxime, carbenicillin) in the presence of β -Lactamase containing bacteria (Reading and Cole 1977).

Timentin is used most commonly in the regeneration medium for suppression/elimination of the *Agrobacterium* vector post-transformation of foreign DNA into plant cells (Cheng *et al.* 1998).

Please Note: While *PhytoTechnology Laboratories*® tests each lot of this product with two or more plant cell/ tissue culture lines, it is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

References

Merck 13, 2364/9505

R.N. Brogden, R.C. Heel, T.M. Speight, and G.S. Avery. "Ticarcillin: A Review of its Pharmacological Properties and Therapeutic Efficacy." *Drugs* 20 (5) pg 325-352 1980.

Z.M. Cheng, J.A. Schnurr, and J.A. Kapaun. "Timentin as an alternative antibiotic for suppression of *Agrobacterium tumefaciens* in genetic transformation." *Plant Cell Reports*. 17 (8) pg 646-649. 1998.

C. Reading, M. Cole. "Clavulanic Acid: a Beta-Lactamase-Inhibiting Beta Lactam from *Streptomyces clavuligerus*." *Antimicrobial Agents and Chemotherapy*. 11 (5) pg 852-857. 1977.