

Catalog Number: 102227, 194592

3-(4,5-Dimethyl-2-thazolyl)-2,5-diphenyl-2H-tetrazolium bromide

Structure:



Molecular Formula: C₁₈H₁₆N₅SBr

Molecular Weight: 414.32

CAS #: 298-93-1

Synonyms: MTT; Thiazolyl Blue

Physical Appearance: Yellowish orange crystalline powder

Purity: ~98%

Solubility: Soluble in methyl alcohol (heat), methanol (10 mg/ml with heat - clear, yellow solution) and water (5 mg/ml-clear to very slightly hazy, yellow to bright yellow solution)

References:

1. M.C. Alley, D.A. Scudiero, A. Monks, M.L. Hursey, M.J. Czerwinski, D. L. Fine, B.J. Abbott, J.G. Mayo, R.H. Shoemaker and M.R. Boyd, "Feasibility of drug screening with panels of human tumor cell lines using a microculture tetrazolium assay", *Cancer Res.*, **48**, 589 (1988).
2. E. Borenfreund, H. Babich and N.M. Alguacil, "Comparisons of two *in Vitro* cytotoxicity assays - the neutral red (NR) and tetrazolium MTT Tests", *Toxic. in Vitro*, **2**, 1 (1988).
3. Y. Maehara, T. Kusumoto, H. Kusumoto, H. Anai and K. Sugimachi, "Sodium succinate enhances the colorimetric reaction of the *in vitro* chemosensitivity test: MTT Assay", *Oncology*, **45**, 434 (1988).
4. D. Gerlier and N. Thomasset, "use of MTT colorimetric assay to measure cell activation", *J. Immunol. Methods*, **94**, 57 (1986).
5. S.P.C. Cole, "Rapid chemosensitivity testing of human lung tumor cells using the MTT assay", *Cancer Chemother. Pharmacol.*, **17**, 259 (1986).
6. T. Mosmann, "Rapid colorimetric assay for cellular growth and survival: Application to proliferation and cytotoxicity Assays", *J. Immunol. Methods*, **65**, 55 (1983).
7. M. Ansay, V. Baldewijns-Rouma and J.E. Smith, "A MTT-linked spot test for the detection of "silent" phenotypes of purine nucleoside phosphorylase (NP) in cattle erythrocytes", *Anim. Blood Groups Biochem. Genet.*, **6**, 246 (1975).
8. V.A. DeBan and M.A. Needle, "The two dimensional structure of tetrazolium-mucopolysaccharide complexes deduced from reactivity studies", *J. Histochem. Cytochem.*, **26**, 40 (1978).

9. F.P. Altman, "A stain for the detection of choline acetyltransferase after electrophoresis", *J. Neurochem.*, **26**, 639 (1976).
10. G.R.N. Jones, "detection of impurities in tetrazolium salts by thin-layer chromatography", *Biochem. J.*, **111**, 39P (1969).
11. G.G. Carmichael, "*p*-Benzoquinone and *p*-hydroquinone as histochemical reagents. II. Factors influencing the rate or formazan production in the trazolium-lipoprotein reaction, and the elaboration of a system for quantitative dehydrogenase histochemistry", *Histochemie*, **16**, 299 (1968).
12. M. Kalina and J.M. Palmer, "The reduction of tetrazolium salts by plant mitochondria", *Histochemie*, **14**, 36 (1968).
13. B.G. Gunlack, G.E. Neal and D.C. Williams, "Colorimetric assay system for tetrahydrofolate dehydrogenase", *Biochem. Pharmacol.*, **17**, 484 (1968).
14. M.E. Reca, "Reduction of a tetrazolium salt in determining growth activity of yeast-phase *Histoplasma capsulatum*", *Appl. Microbiol.*, **16**, 236 (1968).
15. J. M. Palmer and M. Kalina, "Effects of tetrazolium salt on the metabolism of mitochondria isolated from Jerusalem artichoke tubers", *Planta*, **78**, 358 (1968).
16. T. Pyl and P. Meyer, "Polarographic behavior of C,N-diphenyl-N'-(4,5-dimethyl-2-thiazolyl) tetrazolium bromide", *Z. Chem.*, **7**, 194 (1967).
17. B.G. Gunlack, G.E. Neal and D.C. Williams, "Demonstration of tetrahydrofolate dehydrogenase activity in tissues", *Biochem. J.*, **101**, 29P (1966).
18. S. Meizel and C.L. Markert, "Use of monotetrazolium salt for the detection of dehydrogenases on starch gels", *J. Histochem.*, **14**, 737 (1966).