



Tetracycline hydrochloride

A2228

Synonym	Achromycine hydrochloride
Melting point	215 - 220°C
Formula	C ₂₂ H ₂₄ N ₂ O ₈ · HCl
M	480.90 g/mol
CAS-No.:	64-75-5
HS-No.:	29413000
EC-No.:	200-593-8
Storage:	RT protected from light
LGK:	10 - 13
Specification	
Assay (titr.)	min. 95 %
α20°C/D; 1%, 0.01 M HCl	-239° bis -250°
pH (1 %; H₂O)	2.0 - 3.0
Sulfated ash	max. 0.5 %
Loss on drying	max. 2 %

Literature

- (1) Sambrook, J., Fritsch, E.F. & Maniatis, T. (1989) *Molecular Cloning: A Laboratory Manual*, 2nd Edition. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York.
- (2) Gossen, M. & Bujard, H. (1992) *Proc. Natl. Acad. Sci. USA* **89**, 5547-5551 Tight control of gene expression in mammalian cells by tetracycline-responsive promoters.
- (3) Gossen, M. *et al.* (1995) *Science* **268**, 1766-1769 Transcriptional activation by Tetracyclines in mammalian cells.
- (4) Yin, D.X. *et al.* (1996) *Anal. Biochem.* **235**, 195-201 Tetracycline-controlled gene expression system achieves high-level and quantitative control of gene expression.
- (5) Freundlieb, S. *et al.* (1997) *Methods Enzymol.* **283**, 159-173 Tetracyclin-controlled gene expression systems for investigations of the cell cycle.

Specification

TÜV
PROFIT
CERT
ISO 9001

DIN EN ISO 9001
Reg.-Nr. 73 100 785

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Comment

Tetracycline was prepared first synthetically from chlorotetracycline, later it was isolated from *Streptomyces viridifaciens*. Tetracycline is active against gram positive and gram negative cocci and bacteria. The introduction of the tetracycline-controlled gene expression system brought a new application for the antibiotic molecular biology (2-4).

Stability: Tetracycline hydrochloride is stable if stored in a dry place and protected from light. It is water-soluble with approx. 11 mg/ml at 28°C. The stability in solutions is optimal at pH 3 - 5.2 (shelf life approx. 6 - 12 days). It may be stored between -20°C and 37°C. Since Tetracycline is light-sensitive, solutions and agar plates containing TC should be protected from light. The recommended working concentration is 10 - 50 µg/ml, the stock solution e.g. 1.25 mg/ml. Magnesium ions antagonize with the activity of TC.