Specification

Cetyltrimethylammonium Bromide *BioChemica* A0805

Solubility:	3 g/L (H_2O)
Physical Description:	Solid
Product Code:	A0805
Product Name:	Cetyltrimethylammonium Bromide *BioChemica*
Specifications:	Assay (titr.): min. 99 % Heavy metals (as Pb): max. 0.001 % Water (K.F.): max. 1 % Fe: max. 0.001 %
Hazard pictograms	
UN:	3077
Class/PG:	9/III
ADR:	9/III
IMDG:	9/III
IATA:	9/III
WGK:	3
Storage:	RT
Signal Word:	Danger
GHS Symbols:	GHS05 GHS07 GHS09
H Phrases:	H302

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Specification

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	H315 H318 H335 H400
P Phrases:	P261 P305+P351+P338 P310 P321 P330 P362+P364 P405 P501
Molecular Formula:	$C_{19}H_{42}BrN$
M:	364.46 g/mol
CAS:	57-09-0
EINECS:	200-311-3
CS:	29239000

Comment

Cethyltrimethylammonium bromide (CTAB) is a cationic detergent. In polyacrylamide gel electrophoresis it is used for the determination of the molecular weight of proteins, which show an unusual migration behavior in the SDS-PAGE (e. g. strongly charged proteins or subunits of membrane proteins). See reference 1 for details of this method.Another important application of CTAB is the precipitation of high molecular weight DNA, especially from plant material (genomic DNA; ref. 3, 5). CTAB forms insoluble complexes with the nucleic acids (RNA, too!; ref. 6), if the NaCl-concentration is decreased to approx. 0.5 M. The tissue or cells are homogenized in CTAB-containing buffers. The effective concentration is 1 - 2 %. Keep the temperature above 15°C, otherwise CTAB will precipitate. Disturbing phenolic substances, which are very prominent in plant material, will not coprecipitated by this method. Nevertheless, in case that they are still disturbing, they can be removed with polyvinylpyrrolidone (K30, ref. 5; K40, ref. 6). The complexes of nucleic acids and CTAB can be dissolved at high salt concentrations only. The detergent is removed by ethanol precipitation and washing of the precipitate with 80 % ethanol, since it is more soluble in ethanol.**Stability**\: Solutions of CTAB are stable for several years at room temperature (5).

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Bibliography

(1)Eley, M.H. *et al*. (1979) *Anal. Biochem.* **92**, 411-419CTAB-PAGE\: Estimation of protein subunit molecular weights using cationic detergents. (2)Hansen, S.H. *et al.* (1981) *Chromatographia* **13**, 453-460HPLC on dynamicaly modified silica\: II. Modification of various silica packings with CTAB. (3)Murray, M.G. & Thompson, W.F. (1980) *Nucleic Acids Res.* **8**, 4321-4325Rapid isolation of high molecular weight plant DNA. (4)Shahjahan, R.M. *et al*. (1995) *BioTechniques* **19**, 332-334Lower incubation temperature increases the yield of genomic DNA from insect tissue. (5)Ausubel, F.A., Brent, R., Kingston, R.E., Moore, D.D., Seidman, J.G., Smith, J.A. & Struhl, K. (eds.) (1999) *Current Protocols in Molecular Biology.* Page 2.3.3-2.3.7, 2.4.2 (Suppl. 27) Greene Publishing & Wiley-Interscience, New York. (6)White, E.J. *et al*. (2008) *Biotechnol. J.* **3**, 1424-1428Modified CTAB method improves robustness and versatility: The benchmark for plant RNA extraction.

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