



Cetyltrimethylammonium bromide (CTAB), 200 gm

Product No. CTAB 200-07

Cetyltrimethylammonium bromide or hexadecyltrimethylammonium bromide (CTAB), is a cationic detergent commonly used in molecular biology to break down cell walls and membranes, making it easier to isolate nucleic acids. The chemical structure of CTAB consists of a long hydrophobic alkyl chain (hexadecyl group) attached to a positively charged nitrogen atom (trimethylammonium group), with a bromide ion as the counterion (Figure 1). When CTAB is dissolved in water, the molecules disperse. Each molecule has a hydrophobic (water-repelling) tail and a hydrophilic (water-attracting) head. As the concentration of CTAB increases, the molecules start to aggregate.



Fig. 1

When the concentration reaches a certain threshold, known as the Critical Micelle Concentration (CMC), the surfactant molecules spontaneously form micelles (Figure 2). Chemical structure and hydrophobic and hydrophilic region sectors of a strong cationic detergent CTAB and micelles. CTAB exists as individual monomers below CMC while as micelles above CMC.

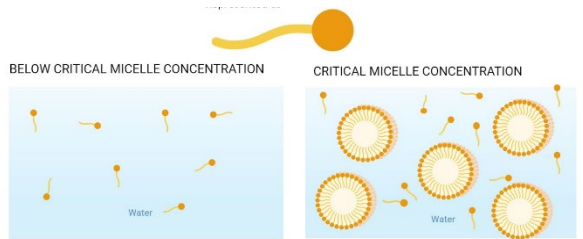


Fig. 2

CTAB is widely used to isolate DNA from a variety of biological samples such as bacteria, fungi, insects, mussels, and plants. Traditional protocols typically require the homogenization of plant samples in an extraction buffer comprised of CTAB, PVP, and a high concentration of salt prior to centrifugation to pellet debris and polysaccharides. The supernatant is then extracted using chloroform, and DNA is precipitated with alcohol. The isolated DNA is typically very clean.

Traditional CTAB Extraction Buffer Recipe:

2% cetyl trimethylammonium bromide, 1% polyvinylpyrrolidone, 100 mM Tris-HCl, 1.4 M NaCl, 20 mM EDTA

Storage:

Bottle should be stored in a cool, dry place, away from direct sunlight.

Related Products	Product No.	Size
CTAB Extraction Buffer	CEB 125-01	125 ml
	CEB 500-02	500 ml
SYNERGY™ Homogenization Buffer	SYNP 500-03	500 ml

*This product is made for research purposes only, not intended for clinical use. Please follow safety and institutional guidelines when using this product. **WARNING: Harmful if dust is inhaled. Powder may cause irritation when in contact with skin and if swallowed.***

