Protocol

TD-P Revision 2.0

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MOPS Running Buffer Preparation

10X (200mM) pH 7.0 – 1 L

Introduction

MOPS is a buffering agent used in biochemistry and molecular biology that was selected and described by Good *et al.* It is a zwitterionic, morpholinic buffer that is useful for a pH range of 6.5 – 7.9 and commonly used for cell culture media, as a running buffer in electrophoresis, and for protein purification in chromatography. MOPS lacks the ability to form a complex with most metal ions and is recommended for use as a non-coordinating buffer in solutions with metal ions. MOPS is often used in buffered culture media for bacteria, yeast, and mammalian cells. MOPS is regarded as an excellent buffer for use in separating RNA in agarose gels. It is recommended to sterilize MOPS buffers by filtration rather than with autoclave due to the unknown identity of yellow degradation products that occur after sterilization of MOPS with autoclave. It is suitable for use in the bicinchoninic acid (BCA) assay.

Materials

- MOPS Free Acid, Ultra Pure (GoldBio Catalog # M-790)
- EDTA Disodium, dihydrate (GoldBio Catalog # E-210)
- Sodium acetate
- DEPC (GoldBio Catalog # D-340) treated H_20. See protocol.

Method

1. Weigh 41.85 g MOPS (CAS 1132-61-2, mw. = 209.26).

2. Weigh 4.1 g Sodium Acetate.

3. Weigh 3.72 g EDTA (CAS 6381-92-6, mw. = 372.24).

4. Add 800 ml of dH_2O (for RNA, use DEPC treated H_20). Adjust pH to 7.0 using 1M NaOH.

5. Fill to 1 L with dH_2O (or DEPC treated dH_2O).

6. Filter sterilize through vacuum filter or autoclave. (Autoclaved MOPS buffer may turn yellow in color).

7. Store at room temperature and protect from light. Remake buffer if color turns dark.

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