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Acetate Buffer

In 1 collection

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Protocol status: Working
We use this protocol and it's working

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Abstract

A buffer solution has the function of resisting changes in pH even when adding powerful acids or bases. However, in the physiological environment the buffered system also provides cofactors for enzymatic reactions, critical salts and even essential nutrients for cells and tissues. Therefore, when trying to reproduce biological conditions in vitro, we must make the appropriate choice of the buffer. After all, it will provide the appropriate medium in which reactions will occur.

Materials

- Deionized Water
- pH Meter (sensitive)
- Acetic Acid
- Sodium Acetate (anhydrous and trihydrate)

Safety warnings

Wear personal protective equipment: gloves, lab coat and mask.

Before start

Organize your workspace.

Make sure all solutions and equipment are available.

Acetate Buffer

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Note

pH range: pH 3.6 to pH 5.6

(a) 0.1 M Acetic acid (5.8 mL made to 1000 mL)
(b) 0.1 M Sodium acetate; 8.2 g L^{-1} (anhydrous; M.W. 82.0 g mol^{-1}) or 13.6 g L^{-1} (trihydrate; M.W. 136.0 g mol^{-1})

Mix acetic acid and sodium acetate solutions in the proportions indicated:

	mL of Acetic acid	46.3	41.0	30.5	20.0	14.8	10.5	4.8
	mL of Sodium acetate	3.7	9.0	19.5	30.0	35.2	39.5	45.2
	pH	3.6	4.0	4.4	4.8	5.0	5.2	5.6

2 Adjust the final volume to 100 mL with deionized water.

3 Adjust the final pH using a sensitive pH meter.