Phosphate Buffered Saline (PBS)

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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.

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COLLECTIONS

Buffers for Use in Biological Systems

KEYWORDS
pH, Henderson-Hasselback, Biochemistry, Molecular Biology

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PARENT PROTOCOLS
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Buffers for Use in Biological Systems
MATERIALS TEXT

- Distilled Water
- pH Meter (sensitive)
- NaCl
- Potassium Phosphate Buffer
- Na$_2$HPO$_4$
- KH$_2$PO$_4$

SAFETY WARNINGS

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

BEFORE STARTING

Organize your workspace.

Make sure all solutions and equipment are available.

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**Phosphate Buffered Saline (PBS)**

1

<table>
<thead>
<tr>
<th>pH 7.4</th>
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150 mM NaCl
10 mM Potassium Phosphate buffer

Prepare **1 L PBS** by dissolving **8.7 g NaCl**, **1.82 g K$_2$HPO$_4$ • 3H$_2$O** and **0.23 g KH$_2$PO$_4$** in **1 L distilled water**.

1.1 A variation of PBS can also be prepared as follows:

- 137 Milimolar (mM) NaCl
- 2.7 Milimolar (mM) KCl
- 10 Milimolar (mM) Na$_2$HPO$_4$
- 1.76 Milimolar (mM) KH$_2$PO$_4$

2 Adjust the pH before use.