中科迈晨

PRODUCT DATASHEET

Dulbecco's Phosphate Buffered Saline (without Ca^{++} and Mg^{++}, 10X)

Cell Culture and General Laboratory Use -Reagents

产品编号：CC010.1

产品信息：Dulbecco's Phosphate Buffered Saline (DPBS) is made from high-quality pathogen- and endotoxin-free water and reagents, and is suitable for a variety of applications, including balanced salt solutions for cell cultures, and biological dilutions of antibodies or other biological agents. It is also used as a wash buffer for immunoassays including Western Blot, immunohistochemistry, immunofluorescence microscopy and ELISA. Other applications may require detergents or other additional components.

产品成分：27mM KCl, 14.7mM KH2PO4, 1.37M NaCl, 81mM Na2HPO4

产品类型：10X DPBS buffer is aseptically filtered through a 0.2 micron filter into a pre-sterilized PET bottle.

包装规格：500mL

酸 碱 度：7.3±0.1 (check pH after dilution and adjust to 7.3 ± 0.1 at R.T. if necessary)

渗 透 压：3000±150

储存条件：Room Temperature (R.T.). Store bottles at room temperature (18 to 25°C) before opening. If desired, store solution at 4°C or lower. Some salts may precipitate out of solution at lower temperatures. Allow the buffer to equilibrate to room temperature (18 to 25°C) to restore solubility of some salts.

注意事项：The pH of DPBS is affected by temperature because the dissociation constants (pKa) of the phosphate buffer system change with temperature. Here are some key points regarding the temperature effect on the pH of PBS.

1. The pKa values of the phosphate buffer system (primarily the dihydrogen phosphate/monohydrogen phosphate pair) change with temperature. Generally, as temperature increases, the pKa values decrease, leading to a slight decrease in the pH of the solution.
2. PBS typically has a pH of 7.2 to 7.4 at room temperature (approximately 21-25°C). When the temperature rises to 37°C (physiological temperature), the pH may decrease by 0.03. Therefore, it's important to consider this subtle change in pH when designing experiments, especially those that are temperature-sensitive.
3. To ensure accuracy in experimental results, some protocols call for recalibrating the pH of PBS at the actual usage temperature and concentration. For example, if PBS is used for cell culture at 37°C, the pH should be adjusted to 7.2-7.4 at 37°C.

Although temperature affects pH, PBS has good buffering capacity and can resist significant pH changes within a certain range. However, notable temperature variations should be accounted for to ensure experimental precision.

参考文献：Dulbecco, R. and Vogt, M., (1957). Plaque Formation and Isolation of Pure Lines with Poliomyelitis Viruses. J. Exp. Med. 106, 167-169.