Antigen Coating Buffer, 5X

Enhances adsorption of antigens while preserving structure.

Antigen Coating Buffer, 5X is a protein-stabilizing solution that maximizes the adsorption of peptide and protein antigens onto polystyrene plates. During the plate coating process, the salt and pH buffering environment provided by Antigen Coating Buffer stabilizes the three-dimensional antigen structure, leading to the preservation of antigen associated epitopes. The buffered environment also provides a highly consistent adsorption rate across all wells of the ELISA plate. In addition, this unique protein stabilization buffer may allow for the use of lower quantities of valuable antigen. Therefore, use of Antigen Coating Buffer allows ELISA plates to be manufactured with high levels of precision and antigen epitope retention.

Antigens are typically coated onto ELISA plates at 0.2-10 µg/mL, using 50-200 µL of 1X coating solution per well. This range translates to approximately 1.1-4.4 mL of Antigen Coating Buffer, 5X per 96-well plate. To calculate the necessary amount of 1X coating solution, multiply the desired fill-volume per well by the number of wells. Prepare 10% extra as some of the solution will be lost during pipetting. For example, to coat 3 plates at 100 µL/well, calculate:

- 1X coating solution: 100 µL/well x 96 wells x 3 plates x 110% = 31.7 mL needed.
- Antigen Coating Buffer, 5X: 31.7 mL / 5 = 6.3 mL.
- DiH₂O required: 31.7 mL - 6.3 mL = 25.4 mL diH₂O.
- Add 6.3 mL Antigen Coating Buffer, 5X to 25.4 mL diH₂O.
- Add the appropriate volume of antigen to the 1X coating solution to attain the target coating concentration.

As Antigen Coating Buffer is concentrated 5X, crystalline precipitates may form in the bottle, especially when refrigerated. If this happens, gently warm or mix the buffer until all crystals are dissolved. Plates may be coated at room temperature.

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