kementec

Protocol for evaluating Recombinant BSA (rBSA) in blocking buffers

PROTEINS AND BLOCKING AGENTS

This protocol provides recommendations for evaluating our Recombinant Bovine Serum Albumin (rBSA) as a replacement for conventional BSA in blocking buffer formulations and related applications.

Kementec's rBSA has been shown to be approximately 10 to 100 times more effective than conventional BSA. Therefore, we recommend beginning your evaluation at a substantially lower concentration than that normally used for standard BSA. To ensure sufficient material for testing and repeat analyses, we recommend preparing at least 100 mL of blocking buffer.

Recommended starting concentration

As a starting point, use 10% of the BSA concentration currently applied in your application.

Example:
If your standard blocking buffer contains 2.0% BSA, the recommended starting concentration of rBSA would be 0.2% rBSA.

Calculation

Desired rBSA concentration: 0.2% (w/v). Final volume: 100 mL.
Required amount of rBSA: 0.2 g (200 mg) per 100 mL buffer.

Working procedure example

1. Reconstitute 200 mg rBSA in 100 mL of a suitable buffer, such as PBS buffer.
2. Mix carefully by gentle mixing/pipetting until the powder is fully dissolved.
3. Keep the reconstituted solution on ice and divide it into appropriately sized aliquots to minimize repeated freeze-thaw cycles.
4. The solution can be stored at 2°C to 8°C for 2-7 days (up to 3 months with the addition of sodium azide) or store the aliquots at -15 °C to -25 °C for up to 12 months.
5. Use according to your standard assay protocol.
6. Compare performance against the current BSA-based formulation.

Optimization studies

- Most assays require dilutions between 1:20 and 1:100, corresponding to a final concentration of 0.05–0.01% rBSA.
- If required, optimize the rBSA concentration by performing serial dilutions until the desired assay performance is obtained.
- In order to avoid multiple freeze/thaw cycles, store in multiple aliquots.

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