

## Quick-Start Protocol

## Recombinant Albumin, AOF

Recombinant Albumin, AOF (cat. nos. 531001, 531010) is an animal-origin-free (AOF) human serum albumin protein (66.4 kDa) with enhanced thermostability produced in *Komagatella phaffii* (*Pichia pastoris*) yeast. It can be used as a replacement for animal-derived bovine serum albumin (BSA) in various applications, such as for preventing adhesion of target proteins on the surface of plastic materials, for stabilizing enzymes during incubation at high temperatures and during storage, for increasing the efficiency of targeted DNA molecule amplification in qPCR tests (especially in the presence of qPCR reaction inhibitors), as a molecular weight marker in electrophoretic separations, as a blocking agent in ELISA tests, or as a cell growth supplement in cultures. Recombinant Albumin AOF, compared to BSA, is characterized by higher purity, higher denaturation temperature, and lower tendency to aggregation, making it more effective in many applications.

Upon receipt, store the kit reagents protected from light at 2–8°C in a constant-temperature freezer for long-term storage.

## Further information

- Safety Data Sheets: [www.qiagen.com/safety](http://www.qiagen.com/safety)
- Technical assistance: [support.qiagen.com](mailto:support.qiagen.com)

## Notes before starting

- Recombinant Albumin is stable for at most 10 freeze–thaw cycles (from  $-20^{\circ}\text{C}$  to room temperature), but the optimal storage temperature is  $2-8^{\circ}\text{C}$ . Avoid exceeding 10 freeze–thaw cycles.
- Albumin remains stable for 3 months at room temperature, but must be stored tightly closed and kept at  $2-8^{\circ}\text{C}$  to maintain microbiological purity.
- The Recombinant Albumin, AOF, is supplied at a concentration of 100 mg/mL in a storage buffer containing 20 mM Tris-HCl (pH 7.5), 20 mM NaCl, and 12 mM sodium octanoate.

## Procedure

1. Gently mix the albumin solution and equilibrate to room temperature before pipetting.

**Note:** Avoid vigorous shaking to prevent foaming.

2. For use in PCR or as qPCR reaction efficiency enhancer: depending on the sample matrix and template, albumin can be used in a final concentration ranging from 0.01 mg/mL to as high as 2 mg/mL. The recommended concentration is 1 mg/mL.

**Optional:** For samples containing high levels of PCR inhibitors, the albumin concentration in the reaction can be increased to 2 mg/mL to enhance its anti-inhibitory effect.

3. Dilute albumin to the target concentration in water or an aqueous solution (e.g., 20 mM Tris pH 7.5 with 20 mM NaCl).

**Note:** Avoid buffers with a pH close to the isoelectric point of albumin (around 5.7) to prevent formation of precipitates.

Albumin as a blocking agent in ELISA: Depending on the type of surface and assay, albumin solution ranging from 1% to 3% can be used to prevent non-specific adsorption of antibodies and antigens.

Avoid high concentrations of DTT (>5 mM) in the final albumin solution. High concentrations of DTT are known to cause precipitation of albumin.

# Document Revision History

Date	Description
09/2025	Initial release

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