Gold Enhancement Kit

Catalog Number 170-6538

Contents The Gold Enhancement Kit is made up of the following components:

Silver Lactate, Monohydrate, 5 g
Hydroquinone, 50 g
Citric Acid, Anhydrous, 250 g
Citric Acid, Trisodium Salt, 250 g
Fixing Solution, 16 oz

Storage All kit components can be stored at room temperature. Silver lactate and hydroquinone should be protected from light and kept tightly sealed.

Handling Hydroquinone, citric acid, trisodium citrate, and fixing solution are potential skin irritants. Use gloves to avoid contact. Wash with water if exposed to these chemicals.

This product is intended for research use only.

Application This kit is used to enhance visualization of gold stained immune complexes on blotted surfaces. The amplification technique is adapted from the method of Danscher and Norgaard.[1] To perform the enhancement:

1. Make 1 liter of 0.2 M citrate buffer, pH 3.7 by dissolving 27.0 g of citric acid and 22.0 g of sodium citrate in 1000 ml distilled, deionized water (ddH_2O).
2. Wash the membrane to be enhanced in ddH_2O. Two rapid 1 minute rinses are sufficient to remove chloride ions that will affect the enhancement staining.

3. Wash the membrane in 0.2 M citrate buffer for 5 minutes.

While preforming the wash steps make up the enhancement buffer.

4. Dissolve 0.85 g of hydroquinone in 90 ml of citrate buffer.
5. Just prior to enhancement, dissolve 0.11 g of silver lactate in 10 ml of ddH_2O and add to the 90 ml of hydroquinone solution. (As silver lactate is highly sensitive to light, protect this solution from extended exposure.)
6. Add the hydroquinone/silver lactate solution to the blotted membrane. Develop for 5-15 minutes in a vessel that is protected from direct light. (A dark room, an aluminum foil covering, or a box will all work to keep direct light away from the silver lactate.)
7. During development make a 1:10 dilution of fixing solution by adding 10 ml of fix to 90 ml of ddH_2O.
8. Stop the reaction by decanting the silver lactate/hydroquinone solution and adding the diluted fixing solution. Use enough fix solution to cover the membrane.
9. After 5 minutes in the fix, wash twice with water and air dry.

Reference

1. Danscher, G. and Norgaard, J. O. R., *J. Histochem. Cytochem.*, **31**, 1394 (1983).