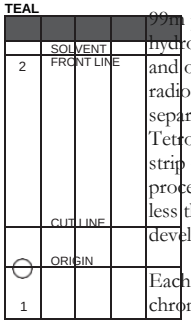
INTRODUCTION

These chromatography strips are designed to determine the radiochemical purity of Tc-99m Tetrofosmin using a single strip method. With these chromatography strips and 99.5% Ethyl acetate solution, free Tc-99m pertechnetate, hydrolyzed reduced Tc-99m and other polar radiochemical impurities are separated from Tc-99m Tetrofosmin. The single-strip chromatography procedure outlined takes less than one minute to develop.



Each teal-colored chromatography strip has three distinct lines: an origin line, a cut line, and a solvent front line. The back of each strip is marked with a soluble dye, located close to the solvent front line, that will migrate with the solvent front. The technologist can easily see the solvent front via the movement of the dye. Use a 5 ml Serum Vial (approximate height 40 mm) as a developing vial. The strip is cut at the cut line after development and section one and section two are then individually counted.

NOTE: *The 99.5% Ethyl Acetate ACS Reagent solvent (Sigma-Aldrich part # 31990-2) required to complete this procedure must be purchased separately.*

Tec-Control Solvent Vendor:
Sigma-Aldrich Chemical Company
800-558-9160 / www.sigmaaldrich.com

Customers outside the USA should visit the Sigma-Aldrich web site to locate a regional office.

TEST PROCEDURE

1. Place approximately 0.5 to 0.8 ml of 99.5% ethyl acetate in a developing vial.
2. Spot approximately one drop of radiopharmaceutical on the origin line of the chromatography strip. (Using a 26G needle and syringe, one drop equals a volume of 10 microliters.)
3. Place the strip in the developing vial containing solvent and develop until solvent migrates to the solvent front line.
4. Remove the chromatography strip and cut strip at cut line, producing sections one and two.
5. Using a gamma scintillation counter peaked for Tc-99m, individually count each strip section for a specific period of time (i.e. 10 seconds).
6. Count background and calculate the net counts by subtracting the background counts from the number of counts registered for each strip section.

NOTE: *The strip should be placed on top or away from the well detector depending on count rate. If the strip is placed in the well, the dead time of the detector will give erroneous results.*

PREPARATION QUALITY

A value of at least 90% radiochemical purity should be obtained in a satisfactory preparation.

CALCULATIONS

Percent Tc-99m Tetrofosmin (Myoview™)

$$= \left[\frac{\text{(NET CTS SECTION 2)}}{\text{(NET CTS SECT. 1) + (NET CTS SECT. 2)}} \right] \text{x100}$$

Percent Free Tc-99m Pertechnetate

$$= \left[\frac{\text{(NET CTS SECTION 1)}}{\text{(NET CTS SECT. 1) + (NET CTS SECT. 2)}} \right] \text{x100}$$

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TEC-CONTROL

CHROMATOGRAPHY STRIPS

For Tc-99mTetrofosmin (Myoview™)

OPERATION MANUAL

150-971

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