

TEC-CONTROL™ CHROMATOGRAPHY SYSTEMS

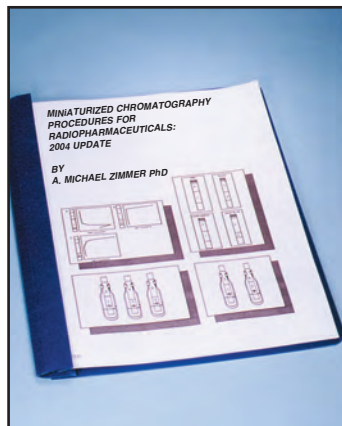
For radiopharmaceutical quality control



Tec-Control™ Chromatography tests the radiochemical purity of specific Tc-99m-labeled radiopharmaceuticals. The accompanying chart shows which strips and solvents are required to perform each individual test. Some solvents must be purchased separately (see Sigma-Aldrich chart) due to hazardous material shipping restrictions.

Detailed instruction manuals are packaged with each strip container, although our Radiopharmaceutical QC Procedure Manual (151-000) explains paper chromatography in greater detail.

Radiopharmaceutical QC Manual



151-000 Procedure Manual,
Radiopharmaceutical QC

This 90-page manual explains Paper Chromatography, a QC method for evaluating the radiochemical purity of currently used Tc-99m-labeled radiopharmaceuticals. Procedures are quick and easy to use, a simple quality control solution for any nuclear medicine department.

TEC-CONTROL™ ALUMINUM BREAKTHRU KIT

Simple 3-step procedure



The Aluminum Breakthru Kit provides a rapid, easy and inexpensive way to test aqueous solutions, particularly pertechnetate generator eluate, for trace quantities of aluminum. Aluminum forms an intense red precipitate with the indicator paper, and the intensity of the color is directly proportional to the amount of aluminum in the solution. The USP allows a concentration of aluminum ion in an injection ≤ 10 micrograms per milliliter (10 $\mu\text{g}/\text{ml}$) in technetium 99m eluate prepared from Molybdenum 99 formed as a result of uranium fission.

Simple Procedure:

1. Place a drop of the eluate or solution to be tested on the indicator paper. The best procedure is to form a hanging drop using a 19-22G needle.
2. Place a drop of the standard aluminum solution on the indicator paper. Use the same size drop.
3. Compare the intensity of the red spot formed. If the eluate spot is less intense than the standard solution, the eluate contains less than 10 $\mu\text{g}/\text{ml}$ aluminum.

150-780 Chromatography Kit, Tec-Control
*Aluminum Breakthru Kit includes:
Aluminum standard, 5 ml, 10 $\mu\text{g}/\text{ml}$,
50 indicator strips and manual*

References:

Miniaturized Chromatographic Quality-Control Procedures for Tc-99m Radiopharmaceuticals; A. Michael Zimmer and Dan G. Pavel, *Journal of Nuclear Medicine*, Vol. 18/12, Dec. 1977, pg. 1230.
Technical Parameters Associated with Miniaturized Chromatography Systems; Raimund A. Taukulis, A. Michael Zimmer, Dan G. Pavel and Bhupendra A. Patel, University of Illinois Medical Center, Chicago, Illinois, *Journal of Nuclear Medicine Technology*, Vol. 7/1.

CHROMATOGRAPHY QC FOR THE FOLLOWING RADIOPHARMACEUTICALS:

RADIOPHARMACEUTICAL	SOLVENT(S) REQUIRED*	STRIPS REQUIRED
Aluminum Breakthru	150-781	150-782
Bicisate (Neurolite™)	Ethyl Acetate 99.9%	150-130
Diphosphonate	Acetone (HPLC Grade), Distilled H ₂ O	150-001 & 150-005
Disofenin (Hepatolite™)	150-160, Distilled H ₂ O	150-122 & 150-125
DMSA	Acetone (HPLC Grade),	150-025
DTPA	Acetone (HPLC Grade), Distilled H ₂ O	150-001 & 150-005
Exametazine (Ceretek™)	Ethyl Acetate 99.9%	150-130
Glucuheptonate	Acetone (HPLC Grade), Distilled H ₂ O	150-001 & 150-005
HDP	Acetone (HPLC Grade), Distilled H ₂ O	150-001 & 150-005
MAA	Acetone (HPLC Grade),	150-001
MAG3 (Mertiatide™)	Acetone, (HPLC Grade), Chloroform 99.8% Tetrahydrofuran 99+%	150-951 & 150-952
MDP	Acetone (HPLC Grade), Distilled H ₂ O	150-001 & 150-005
Mebrofenin (Cholotec™)	150-160, Distilled H ₂ O	150-122 & 150-125
Pyrophosphate	Acetone (HPLC Grade), Distilled H ₂ O	150-001 & 150-005
Sestamibi (Cardiolite™ and Miraluma™)	Ethyl Acetate 99.9%	150-991
Sulphur Colloid	Acetone (HPLC Grade),	150-001
Tc-99m (reduced)	Acetone (HPLC Grade),	150-001
Tc-99m Monoclonal Antibodies	0.9% Saline	150-771
Tetrofosmin (Myoview™)	Ethyl Acetate 99.9%	150-971
In-111, Octreotide (Octreoscan™)	150-773 & 0.9% Saline	150-771 **
In-111 Monoclonal Antibodies	150-773 & 0.9% Saline	150-771 **
In-111/Y-90 Zevalin™	150-773 & 0.9% Saline	150-771
I-131 Monoclonal Antibodies And Neutrospec™	0.9% Saline	150-771

* See Sigma-Aldrich product matrix for solvents.

** Note: A Well Plate is suggested to perform QC on these radiopharmaceuticals.

Contact Fisher Scientific Corp. 800-766-7000 / www.fishersci.com / Item #14-245-71

Chromatography Strips

- 150-001** Strips, RED, 50/pkg
- 150-005** Strips, BLACK, 50/pkg
- 150-025** Strips, YELLOW, 50/pkg
- 150-122** Strips, ORANGE, 50/pkg
- 150-125** Strips, LIGHT BLUE, 50/pkg
- 150-130** Strips, GOLD, 50/pkg
- 150-771** Strips, DARK GREEN, 50/pkg
- 150-951** Strips, LIME, 50/pkg
- 150-952** Strips, PEACH, 50/pkg
- 150-971** Strips, TEAL, 50/pkg
- 150-991** Strips, PINK, 50/pkg
- 150-782** Strips, ALUMINUM, 50/pkg

Chromatography Solvents

- 150-160** Solvent, 20% Sodium Chloride, 30 ml
- 150-773** Solvent, DTPA, 5 ml
- 150-781** Solvent, Aluminum Standard, 5 ml, 10 µg/ml

Related Items:

- 150-960** Developing Vials, 10 ml, 288/case
(used for all Tec-Control testing)
- 150-961** Developing Vials, 5 ml, 144/case
(used for Sestamibi & Tetrofosmin)
- 066-533** Forceps, Curved, locking, 9.5" l (24.1 cm)
- 066-535** Forceps, Straight, locking, 9.5" l (24.1 cm)
- 066-536** Forceps, Curved, non-locking, 13.5" l (34.3 cm)

Tec-Control Solvent Vendor:

Sigma-Aldrich Chemical Company
800-558-9160 / www.sigmaaldrich.com

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

Solvent Description	Vendor Part #
Acetone HPLC Grade	27072-5
Ethyl Acetate 99.5% ACS Reagent	31990-2
Chloroform 99.8% ACS Reagent	31998-8
Tetrahydrofuran 99+% ACS Reagent	36058-9