TECHNETIUM 99m GENERATORS
Technetium Tc 99m Generators for the Production of Sodium Pertechnetate Tc 99m

20 Sizes
ONLY NOVO, THE DPA LEADER COULD DO IT ...

THE NEXT DIMENSION IN DPA TECHNOLOGY

Over 100% Faster Scanning Speed, Vastly Improved Precision & Accuracy, Requiring 2/3 Less Gd 153

The BMC-Lab 23 is the kind of significant DPA technology breakthrough you'd expect from Novo. After all the BMC Lab-22a was the first commercially acceptable DPA unit developed over 10 years ago.

Now the NOVO BMC-Lab 23 blazes new paths for the serious-minded clinician.

Speed of Scan – Only Novo offers a multi-detector system that reduces scanning time. Typical Lumbar spine study takes only 5-10 minutes.

Higher Precision and Accuracy – Improved automatic calibration and built-in calibration standard guarantee for greater precision and accuracy.

Software Advance – For femoral neck and lumbar spine scanning. User definable normal programs. Self diagnostic programs to reduce down time and service costs.

Reduced Radiation Dose – A real plus! The new BMC-Lab 23 only needs 0.3 Ci Gd-153 which further reduces source expenses.

Computer Advance – Flexible VME System Concept with modular 32 bit architecture. Realtime multi-tasking system which allows simultaneous scanning and calculation for higher patient throughput.

Future upgrade potential for total body scanning.

No other DPA unit can give you the speed, accuracy and lower source cost of the all new BMC-Lab 23.
And of course you'll get the outstanding Novo training, service and marketing support programs that's become virtually a trademark.

For full details of the next dimension in DPA technology, the Novo BMC-Lab 23, call Novo today ... The Leader in DPA Technology Worldwide.

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a Division of Novo Laboratories, Inc.
59 Danbury Road
Wilton, Connecticut 06897
Telephone: (203) 846-8420

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Plastvaenget 9
9560 Hadsund, Denmark
Telephone: 45-8-572022

The BMC-Lab 23, Available soon for commercial distribution ...
INTRODUCING
TheraSeed™
Alternative Permanent Implant

- 17 day half life provides higher dose rate — critical to the treatment of rapidly growing tumors.
- Insoluble, non-volatile isotope — critical in case of capsule damage such as during subsequent procedure for removal of urethral blockage.
  - Palladium-103 active isotope.
  - 21 Kev x-rays for ease of radiation protection of medical personnel and the patient.
  - Biologically compatible titanium capsule.
  - Sized for standard applicators.

---

**Biologically Equivalent Doses**
Orton, C.G., Br. J. of Rad. 47(603-607)

**Tumor Regression (ca. tongue)**
DHEW Publication (FDA) 76-8022

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**Graphical Representation**

- 17 day half life:
  - $D_{eq} = 11,500$ Rads

- 60 day half life:
  - $D_{eq} = 16,000$ Rads

---

**Legend**

- Dose Rate (Rads/Day)
- Time (Months)
- Percent
In its ultimate form Technegas consists of particles formed from evaporated graphite with dimensions in the range 0.005 to 0.02 microns. This allows Technegas to penetrate to the alveolar level before deposition. As little as one breath from the mouthpiece shown here completes the study.

The operation takes place in a microprocessor controlled environment that:
* generates Technegas from Sodium pertechnetate (99mTc).
* supervises the patient delivery process.
* safely disposes of gaseous waste.

In the delivery of V/Q services for pulmonary embolism Technegas is on standby 24 hours-a-day.

Direct comparison between Technegas, aerosol and xenon-133 was afforded by a patient with a history of pulmonary embolism who had been studied three times over a twelve month period. She is a 65-year-old in acute renal failure secondary to lupus nephritis. Her first two ventilation studies were performed seven months apart using a high quality commercial aerosol unit and they remained relatively unchanged. For the third study, she agreed to be part of our clinical trial comparison between Technegas and xenon-133. These four images are posterior views.

Panel 2 is a sample of four standard views from a patient with pulmonary embolism. The upper row is Technegas, the lower row is MAA injection. The patient was a 65-year-old female with recurrent deep vein thrombosis, asthma and a heavy smoker. But the real test of the value of Technegas comes in patients with severely compromised lung function.
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Compatible, Expandable and Affordable!

Siemens MicroDELTA and MaxDELTA nuclear imaging and data processing computers interface with all major manufacturers of gamma cameras... providing you with greater freedom of choice.

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MicroDELTA and MaxDELTA also communicate with other nuclear medicine computers. So you can most cost-effectively utilize your existing computers and patient study database.

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Siemens proven technological expertise in gamma cameras, now applied to computers, ensures the DELTA product family will remain your best choice. Consider our worldwide service network, training and support. And our ambitious schedule for software development and release. All told, the choice is clear...Siemens.

For more information contact your local Siemens representative or:

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IF WE SHOWED YOU A SPECT SYSTEM WITH PET SYSTEM RESOLUTION, WOULD YOU MIND IF IT COST LESS?

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TOMOMATIC’s state-of-the-art DEC’s MicroVax® II® computer is simple to use, easily upgradable and adaptive to network use. And designed to keep pace with developments in nuclear medicine.

You can choose from four TOMOMATIC dedicated brain SPECT instruments to cover every clinical need, from a one-slice to a five-slice system.

We invite you to write for a brochure to find out more about the leader in brain SPECT imaging. When you see how much more TOMOMATIC offers, we know you’ll be very happy to have to pay less.
Mallinckrodt continues to offer Dollar Power savings of up to 30% on top-line nuclear medicine equipment and services.

Purchase your radiopharmaceuticals direct from Mallinckrodt or through Diagnostic Imaging Services, and qualify for valuable discount certificates redeemable for top-line equipment or services for your nuclear medicine department.

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- Nuclear Associates
- Nuclear Medicine Consulting Firm
- Viox Corporation

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NUCLEAR MEDICINE WEEK
July 27 – August 2

Nuclear Medicine Week will be celebrated by nuclear medicine professionals across the country during the week of July 27-August 2, 1987. Sponsored by The Society of Nuclear Medicine and Technologist Section, Nuclear Medicine Week has been developed to heighten public awareness of the progress nuclear medicine has made in the diagnosis and treatment of disease.

YOUR SUPPORT IS NEEDED in promoting Nuclear Medicine Week. The Society has prepared a set of guidelines for promoting the Week in your local area. We will also have posters, buttons and stickers available for your hospital to purchase. Price lists for these items will be available shortly.

If you are interested in obtaining a set of guidelines and/or purchasing any promotional materials, please contact:

Virginia M. Pappas, CAE
The Society of Nuclear Medicine
136 Madison Avenue, Dept. 487J
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Capintec's CAP-RIA® 16 multi-well gamma counter for RIA testing is known for Accuracy and Reliability. With the data processor and printer included, the system offers complete RIA testing and reporting capability, in one small system.

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The standard for state-of-the-art dose calibration is the CRC® family of radioisotope dose calibrators. Featuring Radiopharmaceutical quality control, Patient Dose Computation, Future Dose and Pre Calibration, the Capintec name has become synonymous with repeatable, reliable dose measurement.

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On many fronts, this combination is an active force in exploring new techniques in nuclear medicine, as well as enhancing old ones. All to help you improve patient care.

IN-VIVO DIAGNOSTICS

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CIS-US. A company for all your nuclear medicine imaging demands. As a pioneer in biomedical technology CIS-US together with its parent company, Compagnie ORIS Industrie S.A., has earned an international reputation for its exceptional R & D capability and its long term commitment and service to the field of nuclear medicine. That’s why we say...our concern for your images...begins with CIS technology and quality products. Why settle for less in your diagnostic examinations. Put CIS-US to the test.

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When you choose CIS radiopharmaceuticals, you are not only assured of product quality...but simplicity and ease of use. Now with these unique packaging and product features, CIS products are the unequal choice.

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CIS-US OFFERS A FULL LINE OF IN-VIVO DIAGNOSTICS FOR A WIDE RANGE OF CLINICAL APPLICATIONS:

<table>
<thead>
<tr>
<th>Pyrophosphate*</th>
<th>AN-DTPA*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit of 5 multidose reaction vials containing lyophilized sodium pyrophosphate, stannous tin as chloride dihydrate, at pH 5.5, under nitrogen. Store at 15-30°C.</td>
<td>Kits of 5 or 30 multidose reaction vials containing lyophilized pentetate calcium trisodium, stannous tin as chloride dihydrate, at pH 3.9-4.1, under nitrogen. Store at 15-30°C.</td>
</tr>
<tr>
<td>AN-MAA*</td>
<td>AN-SULFUR COLLOID*</td>
</tr>
<tr>
<td>Kits of 5 or 30 multidose reaction vials containing lyophilized albumin aggregated, stannous tin as chloride dihydrate, and sodium chloride, at pH 5.0-5.4, under nitrogen. Store at 2-8°C.</td>
<td>Package of 5 kits, each consisting of: a multidose reaction vial containing lyophilized sodium thiosulfate anhydrous, edetate disodium and gelatin, a syringe containing a hydrochloric solution; a syringe containing an aqueous solution of sodium biphosphate anhydrous and sodium hydroxide. Store at 15-30°C.</td>
</tr>
<tr>
<td>AN-MDP*</td>
<td>LDO*</td>
</tr>
<tr>
<td>Kits of 5 or 30 multidose reaction vials containing lyophilized medronic acid, stannous tin as chloride dihydrate, at pH 5.8-5.5, under nitrogen. Store at 15-30°C.</td>
<td>Package of 25 vials of isotonic sodium chloride solution with less than 5 ppm dissolved oxygen at pH 4.5-7.0. Store at 15-30°C.</td>
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TECH® KIT

Provides a radiochromatographic quality control method for the determination of the chemical states of Tc 99m in radio-pharmaceuticals. 100 determinations.

For additional product information and distribution in your area, call (800) 221-7554; in New York, (516) 326-8008

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We're continuing the innovation in Nuclear Medicine and diagnostic imaging.

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Has our latest development left the opposition going round in circles?

Undoubtedly yes!
Scintronix already produces the finest gamma cameras in the world for Nuclear Medicine.
With the QUESAR (Quasi-Elliptical-Self-Adaptive-Rotation) Tomographic Digicamera – our latest advance in nuclear medicine scanners – we are introducing a new dimension in efficient and practical tomography.
The secret of our outstanding performance? – our ability to use the exceptional stability and strength of our gantry unit together with precision control of the positional drive system to perform highly accurate and reproducible contour scans (with precession errors of less than one millimetre).
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And with its unique orbit selection capability, the Scintronix QUESAR system maximises the accuracy and definition of the image and optimises the camera's ability to accommodate the full range of patient sizes.
To stay even further ahead of the pack, we offer a complete range of advanced clinical software with our QUESAR scanners, ranging from multiple oblique angle reconstruction software with user available filter generation to full Fan Beam capability for brain imaging.

Is it any wonder our competitors are going round in circles?
**COMP-U-CAL™**

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- Automatic calculation of $^{99m}$Tc assay on $^{99m}$Tc samples.

PERFORMANCE GUARANTEED... ONLY $4,900

**DELUXE ISOTOPE CALIBRATOR**

Offers a fast, accurate means of measuring the activity of radioisotope doses.

PERFORMANCE GUARANTEED

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**CAL/RAD™ II**

Provides the budget-conscious lab with a reliable and economical calibrator system. Optional printer available.

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*100% SATISFACTION GUARANTEED!*

If for any reason you are not completely satisfied with a Nuclear Associates product, it may be returned within 30 days of shipment for full credit.
Convenient—Satisfying the needs of virtually any Nuclear Medicine Department
- 20 Sizes—from 830mCi to 16,600mCi.
- 3 Calibration Days—Monday, Tuesday and Thursday.
- Open/Closed Valve—to eliminate possibility of leakage during shipment
  and use.
- Secondary Shield—can be loaded from top or from side.

Easy-to-Use
- Horizontal elution
- Internal saline reservoir—lets you automatically elute, eliminating the need to store
  saline vials.
- 5, 10 and 20cc vials allow you maximum flexibility in elution concentration to meet
  your needs.

Maximum Radiation Protection
The smallest 5 sizes of the Technetium Tc 99m Generator—830, 1660, 2480, 3310
and 4140mCi—are shielded with lead. The remaining fifteen sizes are shielded with
depicted uranium internal shielding. Deerated uranium possesses greater density
and therefore offers superior shielding properties for our higher activity Generators.
Optimum shielding design minimizes radiation to personnel in work areas, providing
maximum protection.

TO ORDER CALL (800) MEDI-123

TECHNETIUM Tc 99m GENERATOR for the Production
of Sodium Pertechnetate Tc 99m

DESCRIPTION: The Technetium Tc 99m Generator is prepared with injected produced Molybdenum
Mo 99 dissolved on aluminum in lead-shielded columns and provides a means for obtaining sterile
pyrogen-free solutions of Sodium Pertechnetate Tc 99m in sodium chloride injection. The eluate
should be crystal clear. With a pH of 4.5-5.5, hydrochloric acid and/or on sodium hydroxide may
have been used for adjustment. Over the life of the generator, an eluate will contain a yield of
80% to 100% of the theoretical amount of Technetium Tc 99m available from the Molybdenum Mo
99 on the generator column.

Each eluate of the generator should not contain more than 0.15 microcurie of the Molybdenum Mo
99 per millicurie Technetium Tc 99m per administered dose at the time of administration, and not
more than 10 micrograms of aluminum per milliliter of the generator eluate, both of which must
be determined by the user before administration.

Since the eluate does not contain an antimicrobial agent, it should not be used after twelve hours
from the time of generator elution.

INDICATIONS AND USAGE: Sodium Pertechnetate Tc 99m is used in ADULTS as an agent for:
- brain imaging including cerebral radionuclide angiography, thyroid imaging, salivary gland
  imaging; pioneer localization; blood pool imaging including radionuclide angiography, and
  urinary bladder imaging (direct isotopic cystography) for detection of vesico-ureteral reflux.
- Sodium Pertechnetate Tc 99m is used IN CHILDREN as an agent for: brain imaging including
  cerebral radionuclide angiography, thyroid imaging; blood pool imaging including radionuclide
  angiography, and urinary bladder imaging (direct isotopic cystography) for the detection of
  vesico-ureteral reflux.

CONTRAINDICATIONS: None known.

WARNINGS: Radiation risks associated with the use of Sodium Pertechnetate Tc 99m are greater
in children than in adults. In general, the younger the child the greater the risk owing to greater
absorbed radiation doses and longer life expectancy. These greater risks should be taken firmly
into account in all benefit-risk assessments involving children.

PRECAUTIONS: As in the use of any radioactive material, care should be taken to minimize
radiation exposure to the patient consistent with proper patient management and to ensure
minimum radiation exposure to occupational workers.

Side Effects: Carcinogenesis, Mutagenesis, Impairment of fertility
No long-term animal studies have been performed to evaluate carcinogenic potential or whether
Technetium Tc 99m may affect fertility in males or females.

Pregnancy Category C
Animal reproductive studies have not been conducted with Technetium Tc 99m. It is also not
known whether Technetium Tc 99m can cause fetal harm when administered to a pregnant woman
or can affect reproductive capacity. Technetium Tc 99m should not be given to a pregnant woman
unless the expected benefits of the procedure to be performed outweigh the potential hazards.

Ideally, examinations using radiopharmaceuticals, especially those effective in nature, of a
woman of childbearing capability should be performed during the first three (15) days following the
onset of menstruation.

Nursing Mothers
Technetium Tc 99m is excreted in human milk during lactation, and therefore formula feedings
should be substituted for breast feedings.

Pediatric Use

See INDICATIONS AND USAGE, DOSAGE AND ADMINISTRATION. See also description of addi-
tional risk under WARNINGS.

Radiopharmaceuticals should be used only by physicians who are qualified by training and
experience in the safe use and handling of radionuclides, and whose experience and training have
been approved by the appropriate government agency authorized to license the use of radionuclides.
The generator should not be used after 15 days from the date and time of calibration.

At time of administration, the solution should be crystal clear.

ADVERSE REACTIONS: Allergic reactions including anaphylaxis have been reported infrequently
following the administration of Sodium Pertechnetate Tc 99m.

HOW SUPPLIED: Sodium Pertechnetate Tc 99m is supplied as a Molybdenum Mo 99/Technetium
Tc 99m generator in sizes from 830 millicuries up to 16,600 millicuries (in approximately 830
millicurie increments) of Molybdenum Mo 99 as of 10:00 P.M. Eastern Time of the day of the
calibration. The TECHNETIUM Tc 99m GENERATOR consists of:

1) sterile generator, 2) Sodium Chloride injection source, 3) 10 cc sterile evacuated vials, 4)
sterile needles, 5) solution vial stop* 6) finished drug labels. Eversion washes in 5 cc and 20 cc
sizes are available upon request.

*Initial order only.

The TECHNETIUM Tc 99m GENERATOR should not be used after sixteen (16) days from the date
and time of calibration.

For multidose use, the eluate should be used within 12 hours of the generator elution time. If
the eluate is used to reconstitute a kit, the radiolabeled kit should not be used after 12 hours from
the time of generator elution or 4 hours after reconstitution of the kit, whichever is earlier.

Circle Reader Service No. 1
In the evaluation of pulmonary perfusion

MACROTEC
Technetium Tc 99m Albumin Aggregated Kit

AS

PARTICLE
PERFECT
AS POSSIBLE

More than 90% of particles in optimal 10 to 90 micron range
The average size is 20 to 40 microns... and no particles are greater than 150 microns. You'll get excellent images throughout a full 6 hours after reconstitution. Meets all your lung perfusion evaluation needs... scheduled or stat. Reconstitution time... only 6 minutes.

More than 80% lung uptake for reliable biological efficacy
Low supernatant activity (SA) and very high radiochemical purity (RCP) help assure biological efficacy you can depend on time after time.

Each Macrotec box label includes the average number of particles per vial.

The only MAA product indicated for use in isotopic venography

SQUIBB Diagnostics

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Please see adjacent page for brief summary
DESCRIPTION

Macrotec is a sterile, nonpyrogenic, lyophilized preparation of Albumin aggregated. Each 5 mL vial of Macrotec contains 1.5 mg of Albumin Aggregated, 10.0 mg Albumin Human, 0.07 mg (minimum) stannous chloride (SnCl2·2H2O) and 0.19 mg total tin, maximum (as stannous chloride, SnCl2·2H2O) 1.8 mg of stannous chloride with trace amounts of sodium acetate, acetic acid and hydrochloric acid. Macrotec contains no preservatives. The pH of the reconstituted product is between 3.8 and 8.0.

The aggregated particles are formed by denaturation of Albumin in a heating and precipitation process. Each vial contains 1.8 million particles, 90% of which are between 10 and 90 microns in size. The average size is 20 to 40 microns; no particles are greater than 150 microns.

Reconstitution of Macrotec with sterile sodium pertechnetate Tc 99m forms an aqueous suspension of Technetium Tc 99m Albumin Aggregated for diagnostic use by intravenous injection. No less than 90% of the pertechnetate Tc 99m added to the reaction vial is retained by aggregated protein preparation time and remains bound throughout the 6-hour lifetime of the suspension.

INDICATIONS AND USAGE

Lung Imaging

Macrotec (Technetium Tc 99m Albumin Aggregated Injection) is a lung imaging agent which may be used as an adjunct in the evaluation of pulmonary perfusion in adults and children. It is useful in the early detection of pulmonary emboli and in the evaluation of the status of the pulmonary circulation in such conditions as pulmonary neoplasm, pulmonary tuberculosis and emphysema.

Isotopic Venography

Macrotec is also indicated for use in isotopic venography as an adjunct in the screening, diagnosis and management of deep vein thrombosis in the lower extremities.

Combined isotopic venography of the lower extremities and the pulmonary vasculature may be performed.

CONTRAINDICATIONS

Technetium Tc 99m Albumin Aggregated Injection should not be administered to patients with severe pulmonary hypertension.

The use of Technetium Tc 99m Albumin Aggregated Injection is contraindicated in persons with a history of hypersensitivity reactions to products containing human serum albumin.

WARNINGS

The literature contains reports of deaths occurring after the administration of Albumin Aggregated to patients with pre-existing severe pulmonary hypertension. Instances of hemodynamic or idiosyncratic reactions to preparations of Technetium Tc 99m Albumin Aggregated have been reported.

PRECAUTIONS

General

In patients with right to left heart shunts, additional risk may exist due to the rapid entry of Albumin Aggregated into the systemic circulation. The safety of this agent in such patients has not been established.

Hypersensitivity reactions are possible whenever protein-containing materials such as pertechnetate labeled Albumin Aggregated are used in man. Epinephrine, antihistamines and corticosteroids should be kept available for immediate use.

The intravenous administration of any particulate material such as Albumin Aggregated imposes a temporary, small mechanical impediment to blood flow. While this effect is probably physiologically insignificant in most patients, the administration of Albumin Aggregated is possibly hazardous in acute cor pulmonale and other states of severely impaired pulmonary blood flow.

The components of the Macrotec (Technetium Tc 99m Albumin Aggregated Kit) are sterile and non-pyrogenic. It is essential to follow directions carefully and adhere to strict aseptic procedures during preparation.

Contents of the vial are intended only for use in the preparation of technetium Tc 99m Albumin Aggregated Injection and are NOT to be administered directly to the patient. The contents of the kit before preparation are not radioactive. However, after the sodium pertechnetate Tc 99m is added, adequate shielding of the final preparation must be maintained.

The technetium Tc 99m labeling reactions involved depend on maintaining the stannous ion in the reduced state. Hence, sodium pertechnetate Tc 99m containing oxidants should not be employed.

The preparation contains no bacteriostatic preservative. Technetium Tc 99m Albumin Aggregated Injection should be stored at 2-8°C and discarded 6 hours after formulation.

Technetium Tc 99m Albumin Aggregated Injection is a physically unstable suspension and consequently the particles settle with time. Failure to agitate the vial adequately before use may result in non-uniform distribution of radioactive particles.

If blood is drawn into the syringe, unnecessary delay prior to injection may result in clot formation.

Radioisopharmaceuticals should be used only by physicians who are qualified by training and experience in the safe use and handling of radionuclides and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides.

As in the use of any other radioactive material, care should be taken to minimize radiation exposure to patients consistent with proper patient management, and to minimize radiation exposure to clinical personnel.

Carcinogenesis, Mutagenesis, Impairment of Fertility

No long-term animal studies have been performed to evaluate carcinogenic potential or whether Technetium Tc 99m Albumin Aggregated Injection affects fertility in males or females.

Pregnancy Category C

Animal reproduction and teratogenicity studies have not been conducted with Technetium Tc 99m Albumin Aggregated Injection. It is also not known whether Technetium Tc 99m Albumin Aggregated Injection can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. There have been no studies in pregnant women. Technetium Tc 99m Albumin Aggregated Injection should be given to a pregnant woman only if clearly needed.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of childbearing capability, should be performed during the first few (approximately 10) days following the onset of menses.

Nursing Mothers

Technetium Tc 99m is excreted in human milk during lactation. Therefore, formula feedings should be substituted for breast feedings.

Pediatric Use

The lowest possible number of particles should be used in the right-to-left shunting, in neonates and in severe pulmonary disease.

ADVERSE REACTIONS

Although adverse reactions specifically attributable to the Technetium Tc 99m Albumin Aggregated Injection have not been noted, the literature contains reports of deaths occurring after the administration of Albumin Aggregated to patients with pre-existing severe pulmonary hypertension. Instances of hemodynamic or idiosyncratic reactions to preparations of Technetium Tc 99m Albumin Aggregated have been reported.

HOW SUPPLIED

Macrotec (Technetium Tc 99m Albumin Aggregated) is supplied as a kit containing 10 reaction vials (5 mL size).
RIA

Educational lectures presented by the Society of Nuclear Medicine

RADIOIMMUNOASSAY

All programs are available on 35mm slides with a synchronized audiocassette lecture, and many are also available on videotape. The following programs are among the newest introduced into the RADIOIMMUNOASSAY category.

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With our commitment to offering only the very best educational resources available in nuclear medicine, we feel that this meeting will be our finest to date.

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This year’s presentation of over 600 scientific papers includes a distillation of the latest advancements and finest work achieved by outstanding scientists and physicians in the field of nuclear medicine. These papers, presented by the original authors, with over 30 subjects to choose from, will provide a unique opportunity for enhancing your knowledge or exploring new avenues in correlative areas of nuclear medicine. Ample time is allotted at these presentations for questions and discussions.

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CONTINUING EDUCATION COURSES

Refresher and state-of-the-art continuing education courses in chemistry, physics, quality assurance, cardiovascular nuclear medicine, PET, SPECT, and NMR will supply up-to-the-minute approaches and procedures for all clinical settings.

TECHNOLOGIST PROGRAM

The ever-increasing importance of the role of the nuclear medicine technologist will be explored in our Technologist Program, and over 70 hours of clinical updates will provide chief and staff technologists with the latest in basic, intermediate, and advanced studies. This program will broaden expertise and enhance the technologist’s contributions to nuclear medicine.

EXPOSITION

More than 100 pharmaceutical and equipment manufacturers will display their latest products in a lively atmosphere. These knowledgeable commercial representatives offer the technical depth our field demands, and they are valuable sources of timely and pertinent information.

AUDIOVISUALS, BOOKS, JOURNALS

The Society of Nuclear Medicine is continually adding to its library of audiovisuals, books, and other publications. A stop at the publications booth is well worth the time. Here you will find on display what the society has to offer for year-round educational advancement.

Networking opportunities and job referral boards are available at special locations throughout the meeting as well as membership information at our membership booth.

Registration: $120 US, $162 CAN SNM members
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Rates for Classified Listings—$2.50 per line or fraction of line (approx. 50 characters per line, including spaces). Please allow 28 characters for the first line of each ad which will appear in capital letters. Special rates for SNM members on Positions Wanted: $1.00 per line. Note: Box numbers are available for the cost of $3.00 per line required.

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Positions Available

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PHYSICIAN to join ultrasonic/nuclear medicine private practice group. Extensive training or experience in ultrasound and nuclear medicine required. Send curriculum vitae to: J. Daly, M.D., Nuclear Medicine/Ultrasound Section, 2301 North Eastman Ave., Portland, OR 97227. EOE.

BC/BE NUCLEAR CARDIOLOGIST wanted July 1, 1987 to direct nuclear cardiology lab at Hospital of the University of Pennsylvania. Assistant/Associate level faculty appointment at University of Pennsylvania with secondary appointment at Albert Einstein Medical Center. Must have expertise and training in nuclear cardiology. Responsible for supervision, scan interpretation, training of fellows and research. NUCLEAR MEDICINE POSITION: 2 years of training in SPECT and dedicated outpatient facility (SPECT). Investigational opportunities available including newly installed PET cameras designed for cardiac imaging, cyclotron, MRI (imaging and spectroscopy), and 3-D image reconstruction. Send CV to: Mark Josephson, MD, Hospital of the University of Pennsylvania, Cardiovascular Section, 3400 Spruce St., Philadelphia, PA 19104. Equal Opportunity/Affirmative Action Employer.

Residency

STANFORD UNIVERSITY SCHOOL OF MEDICINE—NUCLEAR MEDICINE RESIDENCY PROGRAM. Unexpected resident position is available beginning July 1, 1987 for a 2-year program at Stanford University Medical Center and affiliated veterans admin. medical center. Patients from the Children's Hospital at Stanford are also studied at the University Hospital. The program is approved by the ACGME and satisfies the requirements of the American Board of Nuclear Medicine. Prerequisite for entry into program: 2 years prior training in an ACGME-approved program in internal medicine, radiology, or a related specialty. Resume and references for further information (include CV and reference list) should be directed to: Dr. I. Ross McDougall, Professor of Radiology and Medicine, Stanford University Medical Center, Stanford, CA 94305.

NUCLEAR MEDICINE RESIDENCY available in both first and second year positions at St. Luke's Hospital, Milwaukee. St. Luke's is a large, 450-bed tertiary care community hospital and is the sixth largest cardiac care center in the US. As such, the program is particularly strong in nuclear cardiology and SPECT. The Nuclear Medicine Residency includes six gamma cameras, four of which are SPECT cameras. Staff includes two nuclear medicine physicians, a pharmacist, a technician, and a programmer. Rotations in MRI will be made available according to interest. Residents are required to write one paper per year. Applicants, with a minimum of 2 years in an American or Canadian residency to be considered for this program. Address applications to: Dr. Don Speegleff, Director of Nuclear Medicine, St. Luke's Hospital, 2900 West Oklahoma Ave., Milwaukee, WI 53215. EOE.

Fellowship

NUCLEAR MEDICINE/MAGNETIC RESONANCE FELLOWSHIP. The Department of Radiology at The University of Texas Health Science Center at Dallas is offering a 1- or 2-year fellowship to begin July 1, 1987 to include training in nuclear medicine and magnetic resonance imaging. Strong emphasis is placed on physiologic image interpretation and quantitative correlation with other diagnostic modalities. Applicants must have completed a minimum of 2 years in an accredited diagnostic radiology residency program and demonstrate an interest in research. Previous fellowship experience or MD/Ph.D. desired but not required. Send CV to: William J. Symes, M.D., Nuclear Medicine and Body MR Research, Department of Radiology, University of Texas Health Science Center, Dallas, 3323 Harry Hines Blvd, Dallas, TX 75235. An Affirmative Action/Equal Opportunity Employer.

The College of Physicians and Surgeons of Columbia University is searching for NUCLEAR MEDICINE FELLOWS to begin July 1, 1987. Applicants with an academic rank of instructor. Positions available July 1988. Responsibilities include patient care, teaching and supervising residents. Requirements include 1 to 2 years of specialized training in either radiology, internal medicine, or any other specialty area. NYS medical license required; narcotics license desirable. Please send resume to: Philip O. Alderson, M.D., Division of Nuclear Medicine, Columbia-Presbyterian Medical Center, 622 West 168th St., New York, NY 10032. Columbia University is an Affirmative Action/Equal Opportunity Employer.

Technologist

CHIEF TECHNICIAN POSITION. Indiana University Hospital and Riley Children's Hospital of Indiana University, a teaching, acute care and research center, located on the growing joint Indianapolis campus of Indiana and Purdue Universities, is accepting applications for the position of Technical and Administrative Coordinator, Division of Nuclear Medicine. Qualified candidates must have a BS degree in nuclear medicine technology or related applied science, NMTCB certification, and 3 years or more independent and/or supervisory experience with related administrative duties. The incumbent will direct, coordinate, and participate in the administration and management of activities of the division and coordinate activities with two other hospitals on the medical center campus. Academic appointment in nuclear medicine technology training program in allied health is included in the position. Interested candidates should submit resume to: Personnel Services Department, Union Building, 620 Dr., Indianapolis, IN 46223. EOE.

NUCLEAR MEDICINE TECHNOLOGIST. 369-bed community hospital located on historic Virginia peninsula seeks technologist for Nuclear Medicine Department. Competent and reliable technologist with the following qualifications: Open to interested applicants. Write to: Dr. J. Ross McDougall, Professor of Radiology and Medicine, Stanford University Medical Center, Stanford, CA 94305. Stanford is an Equal Opportunity Affirmative Action Employer.

NUCLEAR MEDICINE TECHNOLOGIST. The University of Kansas Medical Center, a 500-bed tertiary care teaching hospital, is seeking a full-time, staff technologist for their imaging services department. The position requires certification by the ARRT(N) or NMTCB. The Division of Nuclear Medicine offers a full range of nuclear procedures, a nuclear pharmacy, MDS and G.E. Computer systems and four imaging systems (including SPECT). We offer a 4-day, non-traditional work schedule, exceptional benefits, and salary commensurate with experience. Send resume to: The Division of Nuclear Medicine, Department of Radiology, University of Kansas Medical Center, Kansas City, KS 66103; (913)588-6843. An EEO/AA Employer.

NUCLEAR MEDICINE TECHNOLOGIST. Position available for a registered or registry eligible technologist in a busy 350-bed community hospital in scenic eastern Tennessee. Chattanooga is about 90 minutes from Atlanta, Birmingham, Knoxville, and Nashville, and has a population of approximately 450,000 people who enjoy excellent weather, low taxes and cost of living. NM Dept. has 3 GE 400T cameras, a mobile Technicare camera and two MDS A computers, under a full-time supervising technologist. Experience in nuclear medicine. Heavy cardiac load, including SPECT. Send resume to: Personnel Office, Memorial Hospital, 2500 Cico Ave., Chattanooga, TN 37404.

NUCLEAR MEDICINE TECHNOLOGIST. Challenging full-time opportunity in a lucrative, fast-paced radiology department with state-of-the-art equipment. Must have completed an accredited training program and be registry eligible in nuclear medicine. BS degree preferred. Day hours, excellent salary and benefit package. Submit resume to: Personnel Office, St. Joseph Hospital Medical Center, 6th & University, Des Moines, IA 50314, Equal Opportunity Employer.

NUCLEAR MEDICINE TECHNOLOGIST. Mayo Clinic is seeking a staff nuclear medicine technologist to join a 20-member technologist staff. Individual will rotate between a large outpatient clinical imaging laboratory with a varied patient population and a hospital imaging center with a rapidly expanding nuclear cardiology program. Specialized computer imaging applications exist in both settings. Must have a registered or registry eligible nuclear medicine technologist. The City of Rochester is located 90 miles southeast of Minneapolis. The Mayo Clinic provides an outstanding fringe benefits package. Interview and relocation expenses are provided. For further information contact resume to: Personnel Director, MAYO CLINIC, 200 First St. S.W., Rochester, MN 55905; (507)284-7499. EOE.

NUCLEAR MEDICINE TECHNOLOGIST. 40 hours per week, 8:00 a.m. to 5:00 p.m. $403.85 per week. Must have Bachelor of Science or Arts and have completed certification program by accredited Nuclear Medicine Technology Program. Must have certification by the Nuclear Medicine Technology Certification Board and the American Registry of Radiologic Technologists. Will perform all nuclear medicine procedures including diagnostic imaging, diagnostic work-up interactions and patient flow coordination. Identifies and calibrates radioactive materials. Prepares and manages quality control of radiopharmaceuticals to patients by intravenous, intramuscular and subcutaneous routes. Uses techniques and products in "in vivo" and "in vitro" procedures. Utilizes knowledge of radiation physics. Keeps records of dispensation, administration, status and radioactive waste. Maintains radiation safety and quality control procedures for all equipment. Please submit resumes to: New Mexico Employment Security Department, P.O. Box 9008, Santa Fe, NM 87504. EOE.

NUCLEAR MEDICINE TECHNOLOGIST. Progressive care-acute hospital is seeking qualified applicants for supervisory technologist position. Requires certified nuclear medicine technologist with 1-2 years supervisory experience and experience as radiation safety officer. Experience with computerized cardiac studies as well as general nuclear medicine proce-
The New Trends and New Possibilities in Nuclear Medicine

The Society of Nuclear Medicine—Europe • 25th Meeting
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Original contributions on a variety of topics related to nuclear medicine will be considered for inclusion in the scientific program. They are:
- Basic Research: Physical science; Emission computed tomography (SPECT and PET); Nuclear magnetic resonance; Instrumentation; Image processing—artificial intelligence; Personal computers—computer networks; Quality control.
- Pharmacology: Radiopharmaceutical chemistry; New radiopharmaceuticals; New radioimmunoassays; Quality control in radiopharmacy; Dosimetry; Radiation risks.
- Clinical Application: Bone/joint diseases; Circulation; Endocrinology; Gastroenterology; Hematology; Cardiology; Immunoscintigraphy; Nephrology; Neurology; Pediatrics; Pulmonary diseases; Therapy; Thyroid diseases.

Call for Abstracts: Official Abstract Forms may be obtained by writing to: Prof. L. Csernay, Institute of Nuclear Medicine, University Medical School, H-6720 Szeged, Körényi fasor 8, P. 469, Hungary. Telephone: 00-36-62-11170. The Deadline for the Receipt of Abstracts is March 10, 1987.

EXHIBITION
A comprehensive exhibition of equipment and radiopharmaceutical manufacturers will be on display.

SOCIAL PROGRAM
An elaborate social program has been planned including: a concert in the Congress Palace of Budapest; wine-and-cheese welcoming party; evening in the Castle of Buda, featuring renowned opera singers, organ music, and a reception in the National Gallery; banquet and dance; farewell luncheon; and the first European Nuclear Medicine Tennis Championship.

Registration: Members of the Society of Nuclear Medicine—Europe (SNME), of the European Nuclear Medicine Society (ENMS), and of the Hungarian Nuclear Medicine Society (HNMS) will be admitted free of charge. Registration fee for all others is: 210 Swiss francs by June 20, 1987, and 300 Swiss francs after June 20, 1987.

Travel Arrangements: Garber Travel, the officially appointed U.S. agent for the SNM in the coordination of travel arrangements to the European Nuclear Medicine Congress, will offer the lowest possible fare and hotel accommodations in Budapest. Garber has agreed to receive Congress Registrations in U.S. dollars for all registrants who are booking both air and land arrangements. Call Toll-Free from outside Massachusetts 1-800-225-4750 or (617)787-0600. Ask for Nuclear Medicine Congress Desk. For detailed information: contact: GARBER TRAVEL, P.O. Box 404—Dept. 91-7023, Brookline, MA 02146.

Mailing address for payment and further information: Prof. L. Csernay, Institute of Nuclear Medicine, H-6720 Szeged, Körényi fasor 8, P. 469, Hungary. Telephone: 00-36-62-11170.

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The Journal of Nuclear Medicine
New Products

Each description of the products below was condensed from information supplied by the manufacturer. The reviews are published as a service to the professionals working in the field of nuclear medicine and their inclusion herein does not in any way imply an endorsement by the Editorial Board of The Journal of Nuclear Medicine or by The Society of Nuclear Medicine.

Image Management System

Sudbury Systems, Inc., has introduced ImageCenter, an image management system. A floppy disk storing a study acquired by any major nuclear medicine computer system can be inserted in the ImageCenter’s disk drive, and the study can then be displayed and manipulated, according to the company. Nuclear medicine studies, even those acquired from different computer systems, can be compared side-by-side with this image management system because of format standardization, the company said. In addition, the ImageCenter has reformatting software so that a nuclear medicine study acquired on one manufacturer’s computer system can be converted to another floppy disk format and then displayed on another manufacturer’s computer system, according to the company.

The ImageCenter also offers a rapid-access directory, and permanent archiving capabilities with an optical disk storage option. Optical disks each store 2 gigabytes of data, or about 8,000 studies, and offer random access retrieval. ImageCenter can be connected to a printer; it also interfaces with a modem so images can be telecommunicated to ImageCall, a portable personal-computer-based system designed for a physician’s private office or home. Sudbury Systems, Inc., 31 Union Ave., Sudbury, MA 01776.

Circle Reader Service No. 101

Telephone Transceiver for Teleradiology System

Teleradiology Systems, Inc., has introduced the Express/Phone, a portable desktop transceiver for telecommunication of diagnostic images from several modalities including nuclear medicine. According to the company, transmission times range from 7-12 seconds for each view, a speed achieved by a proprietary image compression method. The Express/Phone weighs 21 pounds, and includes a built-in modem that transmits 9,600 bits per second, a transmission auto-check feature, and a 16-bit cyclic redundancy control to prevent image degradation. This product has storage capacity for 60 images with floppy disk storage. The Express/Phone is suitable for emergency or weekend studies, hospital networks, group offices, consultations, and as a teaching tool, according to the company, and computer literacy is not required. Teleradiology Systems, Inc., 12418 Stirrup Ln., Suite 1401, Bowie, MD 20715.

Circle Reader Service No. 103

“Freeze-Frame” Video Recorder

Polaroid has introduced a modified version of its FreezeFrame video recorder, which has been optimized for use in endoscopy imaging applications, according to the company, and produces instant prints or slides from any video source. The product, which will be marketed as the MP Video Videoprinter by the MP Video company, permits immediate hardcopy imaging during endoscopic examinations, according to Polaroid. Typical applications include patient education and compliance, clinical record keeping, publications, presentation, referral communication between physicians, and billing documentation. MP Video, 65 South St., Hopkinton, MA 01748.

Circle Reader Service No. 105

Monoclonal Antibody Assay

Hybritech has introduced the Tandem®-R TSH HS assay designed to detect hyperthyroidism, euthyroidism, and hypothyroidism. The minimal detection limit of 0.05 µIU/ml allows accurate quantitation of the extremely low TSH concentrations indicative of hyperthyroidism, according to the company. The euthyroid range was found by Hybritech to be 0.4-4.3 µIU TSH/ml, and the highest TSH level observed in hyperthyroid patients was 0.00 µIU/ml. The values for hypothyroid patients were 76-532 µIU/ml, well above normal values, according to the company. Hybritech, Inc., 11095 Torreyana Rd., PO Box 269006 (92126-9006), San Diego, CA 92121-1804.

Circle Reader Service No. 106
The Cardiac Stress Table is designed for fast set up and easy operation. It allows the widest possible accommodation to desired exercise position, patient physique, preferred exercise/imaging procedure, and camera geometry.

The ergometer "floats" in the X-Y plane so it can be adjusted to any patient leg length. The back rest adjusts to permit stress testing from supine to the sitting position, or at any degree in between.

The combination of angulated back and moveable ergometer creates the most comfortable patient position, affording unobstructed, clear approach for portable or wide-field cameras. Available with your choice of ergometers—Tuntori or Collins.

The Cardiac Stress Table sets the standard for exercise imaging. From your Nuclear Medicine Source...Atomic Products Corporation.

For additional information, call us today.

*Shown with Collins Ergometer.
The patient presents with left hemiplegia. His CT is perfectly normal. So is his MRI scan.

Despite the miracles of modern diagnostics, medicine still suffers dark shadows.

Soon, Medi-Physics will illuminate a few.