

Overview of Siemens Molecular Imaging Isotope Production, Distribution and R&D

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Siemens Molecular Imaging Divisions

- Cyclotron & Chemistry Modules
- Biomarker R&D
- PETNET Solutions
- Preclinical Scanners
- Clinical Scanners
- ^{68}Ge sources for Clinical scanners

Cyclotrons & Chemistry Modules

- RDS Eclipse Family
 - 11 MeV negative ion cyclotron
 - Dual beams – currently 60 μ A each
 - Self-shielded
 - Liquid and/or gas targets available for production of ^{15}O , ^{13}N , ^{11}C & ^{18}F
 - Solid target development
- Chemistry Modules
 - Explora FDG
 - Other versions in development

Target Reactions

- **(proton, neutron) reactions**

- $^{18}\text{O}(p,n)^{18}\text{F}$ (liquid or gas targets)
- $^{15}\text{N}(p,n)^{15}\text{O}$ (gas target)

- **(proton, alpha) reactions**

- $^{16}\text{O}(p,\alpha)^{13}\text{N}$ (liquid target)
- $^{14}\text{N}(p,\alpha)^{11}\text{C}$ (gas target)

Eclipse HP



Biomarker R&D

- Laboratories in Culver City, CA and North Wales, PA
- Collaborations with Pharma and Universities as well as internal R&D
- Primarily still focused on ^{18}F and ^{11}C compounds
- Located near a PETNET facility

PETNET Solutions

- Worldwide distribution network
- Primarily ^{18}F FDG but also growing demand for NaF
- Limited distribution of ^{13}N ammonia at several domestic locations
- Very limited distribution of ^{18}F -Dopa

PETNET Solutions – A Siemens Company

Current Status: 55 sites world-wide



Siemens Molecular Imaging

Innovation is in our genes.

