

REPRODUCIBLE HIGH YIELDING CU-64 RADIOISOTOPE MANUFACTURING

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Background: Its unique imaging characteristics and favorable half-life and decay properties make radioisotope copper-64 (Cu-64) most desirable for PET imaging. To meet the increasing demand, an efficient high yielding Cu-64 manufacturing process is essential. To address this unmet need, scientists from Washington University in St. Louis developed an improved manufacturing process.

Technology Description: The team led by Mr. Gaehle improved on established manufacturing processes.

The full implementation of this process will reduce the amount of target material needed to produce Cu-64 in high yields of ≥ 7.5 Ci; reliably producing ≥ 150 mCi/uA with the specific activity expected to routinely exceed 300 mCi/ μ g.

Key Advantages:

- High yielding (≥ 7.5 Ci) Cu-64 manufacturing
- Reliable production of ≥ 150 mCi/uA with a specific activity of ≥ 250 mCi/mg
- Reduces amount of target material needed
- Optimized isolated Cu-64 chloride purity and Ni-64 recovery

Publications: Not available

Patents: Pending

Lead Inventor: Greg Gaehle, MS; Co-Director PET Nuclear Pharmacy and Cyclotron Facility, Mallinckrodt Institute of Radiology. The [GMP Cyclotron Facility](#) is a renowned resource for longer-lived PET radionuclides (including Cu-64, Zr-89, Y-86, Br-76,77) used in the United States and Canada. Their portfolio contains over 20 human-use radiopharmaceuticals and they actively develop radiopharmaceuticals for human use.