

Nuclear & Precision Health Solutions

Offering end-to-end radiopharmaceutical solutions to support your drug development process

Choosing a service provider can be challenging — especially at an early development stage with many unknowns, and in today's rapidly changing environment. Working with Cardinal Health™ Nuclear & Precision Health Solutions gives you custom end-to-end service offerings and support to help meet your needs in the drug development process, all with the backing of our more than 40 years of experience in radiopharmaceuticals. With over 130 pharmacies and over 30 cyclotrons, Cardinal Health delivers more than 12 million radiopharmaceutical doses annually and has supported more than 75 clinical trials in the past five years, including alpha and beta radiotherapies.

Advanced reporting analytics via APIs | Quality systems | Regulatory services

Radionuclide production	CDMO (Phase 0-III)	CMO (Commercial)	Pharmacy dose dispensing (Phase 0-commercial)	Commercial excellence solutions
• 225Ac* • 18F • 68Ga • Other isotopes available via relationships with manufacturers	• Multi-facility campus • Mfg. optimization • Validation • Tech transfer • Clinical trial mfg. • NDA/BLA support • Development to optimization	• Existing facility space • Mfg. scale up • Validation • Pharmacy integrated shipper development	• Three national and 130+ local pharmacies • Dose preparation and dispensing • In-house fleet • >99% on-time average • Waste handling	• Dedicated sales team • Dose traceability • White glove service • Data analytics • Reimbursement support

• End-to-end capabilities

As your comprehensive provider, Cardinal Health provides the solutions you need to efficiently scale to market. From assisting with regulatory support, early feasibility studies and clinical manufacturing operations, to large-scale production and distribution, we are an end-to-end solution for helping manufacturers accelerate the development of radiopharmaceutical products.

• Isotope procurement

With the largest national network and the industry's most comprehensive portfolio of radiopharmaceuticals, Cardinal Health can provide a wide range of isotopes to meet your needs.

• Clinical trial dispensing

Our integrated network of three national and 130+ local radiopharmacies enable broad reach for your patient enrollment, potentially reducing clinical trial time. Via our national pharmacies, we can provide patient unit doses nationwide, further expanding your clinical trial reach beyond the limited sites that can aseptically prepare doses internally.

• Clinical development support, commercial manufacturing and dispensing capabilities

Leverage our space to help accelerate your program efforts. Our manufacturing, analytical and commercialization optimization solutions offer innovators options to help plan their program at each stage. Through engagement with Cardinal Health at the beginning of your product journey, we can help support your development stages and prepare for long-term commercial scalability.

Similar to clinical trials, we can also support the dispensing and distribution of your commercial product down to the last mile via our integrated national-local pharmacy network, as well as our in-house fleet which averages an industry leading greater than 99% on-time delivery rate.

• Commercial capabilities

Beyond our integrated national-local pharmacy network and manufacturing footprint, we also have a dedicated radiopharmaceutical sales team, and a full-service marketing team to help expedite commercial scale up. Other services offered also include health physics, reimbursement and end-user product support.

• Advanced analytics

We offer a wide range of capabilities to help provide you with access to critical data to keep your development program moving and to provide real-time insights on commercial product orders and sales performance. With our proprietary Nuclear Data Exchange (NDEX), we can provide pre-built and documented capabilities for direct, turnkey data integration. Using our fully featured API (application programming interface), we can provide direct data access and integration to real-time process reports ranging from manufacturing and inventory, to customer orders and delivery information.

• Regulatory and quality

Our experienced team of more than 150 regulatory scientists can help support your needs from pre-clinical trials through commercial development. This team has supported over 100 NDA/BLA/ANDA approvals, over 500 INDs and has more than 500 approved products under maintenance.

Cardinal Health also has established a phase-appropriate, robust quality system to help support product manufacturing and dispensing, which is critical in supporting the needs for flexibility and efficiency.

For more information, visit us at cardinalhealth.com/theranostics or email NPHS@cardinalhealth.com.

*Availability pending TerraPower development project. For full details, please refer to the press release on ²²⁵Ac <https://www.terrapower.com/terrapower-cardinal-health-actinium-225/>

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