NOVARTIS

Molecular Imaging

Who we are

At **Advanced Accelerator Applications Molecular Imaging**, we develop, manufacture and supply radiopharmaceutical products for positron emission tomography (PET) imaging – a cornerstone of personalized medicine.

Our core mission is to provide precision diagnostic solutions, with a primary focus on oncology. Novel PET probes are designed to target specific tumor markers, revolutionizing the way we diagnose and treat cancer. Over the years, our portfolio has expanded, showcasing our prowess in other disease areas, particularly in neurology.

Originally founded in 2002 as a spin-off of CERN, then acquired by the Novartis Group Company in 2018, Advanced Accelerator Applications Molecular Imaging operates since December 2022 as a business of Advanced Accelerator Applications (a Novartis Company) dedicated to precision diagnostic solutions. We continue to carry on the proud Company legacy, while building on its potential for future expansion and growth.

What is Molecular Imaging?

Molecular Imaging procedures are noninvasive, safe and painless techniques that enable physicians to accurately diagnose and stage complex diseases, as well as monitor disease progression or response to treatment. This information is obtained via the interaction between a targeted probe and the biological system. Where other diagnostic imaging procedures (such as x-rays and computed tomography or CT) provide pictures of physical structure, molecular imaging offers insights in how the patient's body is functioning and to evaluate its chemical and biological processes that would otherwise require more invasive procedures such as biopsy or surgery.

PET imaging, a subset of nuclear medicine, is a molecular imaging technique. It uses minute amounts of

targeted drugs labelled with radioactive isotopes. Special PET cameras are employed to detect these radiopharmaceuticals and provide precise high-resolution pictures of the body part being imaged at the molecular and cellular levels. This modality is able to identify a disease in its early stages, often before symptoms appear or abnormalities can be detected with standard diagnostic tests*.

*Source: The Society of Nuclear Medicine and Molecular Imaging (SNMMI), at https://www.snmmi.org/AboutSNMMI/Content.aspx?ItemNumber=6433

What are PET Radiopharmaceutical Products?

PET is an imaging technique that involves detection of a pair of gamma rays emitted from a patient's body following the administration of a positron-emitting radiopharmaceutical product that binds to target cells. Fluorine 18 (F-18) and Gallium 68 (Ga-68) are commonly used radioisotopes in PET imaging. The radioisotopes are incorporated into various ligands, enabling the sustainable development of novel PET radiopharmaceutical products. Due to their inherent radioactive decay, the production and patient delivery usually have a separation of only a few hours at most, Our F-18 radiopharmaceutical products are manufactured at our facilities equipped with a cyclotron, while our Ga-68 tracers are synthesized in our radiopharmacies using a Ga-68 generator.

Delivering on time, every time

In Molecular Imaging time is of the essence! For example, F-18 radiopharmaceutical products have a short half-life* of under 2 hours, which means their radioactive effectiveness decays after that time. High quality, accurate handling during transport and on time delivery to the medical centers or clinics, are critical factors in this "race against time" to ensure the radiopharmaceutical product reaches the patient for their scheduled PET scan appointment, on time, every time.

Find out about our product portfolio available in your country by visiting: Product Portfolio

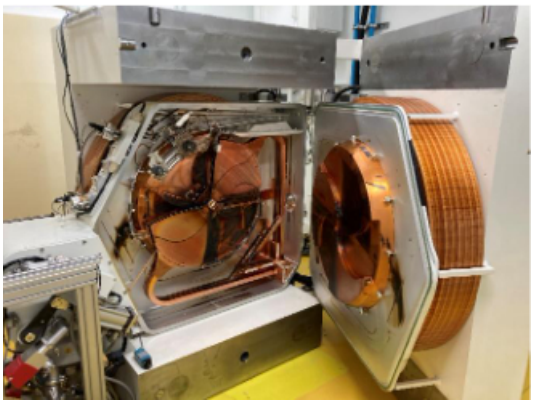
*Half-life in radioactivity is the length of time it takes for half of the radioactive atoms of a specific radionuclide to decay. (source: Radiation Studies – CDC: Properties of Radioactive Isotopes)

A strong network set for future growth

We currently operate a state-of-the art network of 14 cyclotrons (and two under construction), providing precision radioligand imaging (RLI) products across Europe through a dedicated network of 12 sites managed by highly qualified and experienced employees.

We are consistently evaluating opportunities to extend our footprint and to provide Molecular Imaging solutions to more patients.

Our European supply capability is expanding with 2 more under construction in Spain and Italy, and one project in early development phase to add a 6^{th} site in Toulouse, France.



A cyclotron is a particle accelerator machine that uses electromagnetic fields and RF signal to propel charged particles to very high speeds and energies, used to produce radioisotopes, such as 18F, which are essential / core components of radiopharmaceuticals.

In the photo, the status of the construction site in Salamanca, Spain, on March 1, 2024.

With our passion and technical expertise of our people, we will continue to unlock the potential of nuclear medicine in molecular imaging.

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