Lantheus Medical Imaging, Inc. Presents Preliminary Data Comparing Novel Cardiac PET Imaging Agent With SPECT at SNM Annual Meeting

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N. BILLERICA, Mass. (June 7, 2010) – Lantheus Medical Imaging, Inc., a worldwide leader in diagnostic medical imaging, today announced preliminary data from a single site participating in the multicenter Phase 2 clinical trial that showed that Positron Emission Tomography (PET) imaging with its novel investigational agent flurpiridaz F 18 injection (formerly known as BMS747158) provided better image quality than technetium-99m sestamibi single photon emission computed tomography (SPECT), the current standard for the non-invasive detection of coronary artery disease (CAD). The data also indicated that PET imaging with flurpiridaz F 18 injection rendered a significantly larger perfusion defect size when compared with the corresponding defects seen in SPECT imaging. The data were featured today in an oral presentation (# 798032) by Balaji Tamarappoo, M.D., Clinical Fellow, Advanced Cardiac Imaging at Cedars-Sinai Medical Center, at the SNM 57th Annual Meeting in Salt Lake City.

"These encouraging preliminary data from our clinical research site show that PET imaging with flurpiridaz F 18 injection provided improved image quality and an increase in defect size compared to SPECT," said Daniel S. Berman, M.D., Chief, Cardiac Imaging and Nuclear Cardiology, Cedars-Sinai Medical Center. "A PET imaging agent that may provide higher quality images with more obvious perfusion defects can have a profound effect on physicians' ability to make more definitive assessments of coronary artery disease."

Twenty-six patients in a single study center underwent SPECT and PET imaging within six months. PET myocardial perfusion imaging was performed with flurpiridaz F 18 injection at rest and was then followed one hour later with imaging at exercise or under pharmacologically-induced (adenosine) stress. PET and SPECT image quality were assessed by two independent, blinded readers and graded as excellent, good or fair. Stress and rest perfusion defects on PET and SPECT were assessed by the same readers by computer-assisted visual interpretation using the standard 17 segment, 5-point scoring model (0=normal; 4=absent uptake). The extent and severity of ischemia (summed difference scores (SDS)) were derived from the difference between summed stress scores (SSS) and the summed rest scores (SRS).

Findings showed that image quality with flurpiridaz F 18 PET was excellent in 24 and good in 2 patients, in contrast to image quality with SPECT which was excellent in 17, good in 8 and fair in 1 patient(s) ($p<0.001$). In 14 patients with abnormal SPECT ($SSS \geq 4$), mean SDS was greater with PET than with SPECT (9.6 ± 1.8 vs. 5.4 ± 0.7, $p=0.02$). In all 12 patients with normal SPECT ($SSS<4$), SDS was zero with both PET and SPECT.

"Although these data will need to be confirmed by results from other sites and from subsequent larger clinical trials, they suggest that flurpiridaz F 18 PET myocardial perfusion imaging may provide improved image quality and an increase in defect size compared to SPECT," said Dana Washburn, M.D., Vice President, Clinical Development and Medical Affairs, Lantheus Medical Imaging, Inc. "The data also suggest that PET imaging with flurpiridaz F 18 injection can be performed using exercise or pharmacological stress, which offers a potential advantage over existing PET MPI agents on the market."

"The presentation of 14 abstracts on our pipeline products at this year's SNM Annual Meeting reflects the level of interest by the medical community in learning more about innovations in nuclear medicine and the potential of PET technology to detect and evaluate cardiovascular disease," stated Don Kiepert, President and Chief Executive Officer, Lantheus Medical Imaging, Inc. "We are enthusiastically committed to the progression of our PET clinical programs, as we believe that more accurate evaluation of patients with cardiovascular disease can result in better patient care and outcomes, and may ultimately help to control healthcare costs."

About Flurpiridaz F 18 Injection and Coronary Artery Disease
Flurpiridaz F 18 injection, a fluorine 18-labeled agent that binds to mitochondrial complex 1 (MC-1), was designed to be a novel myocardial perfusion PET imaging agent for the diagnosis of coronary artery disease (CAD). The agent is currently in Phase 2 clinical development. CAD is the leading cause of death in the United States for both men and women[1]. Each year, more than half a million Americans die from CAD[1].

In Phase 1 clinical studies, flurpiridaz F 18 injection was well-tolerated and demonstrated radiation dosimetry that suggests that good quality images may be obtained with patient radiation doses that are within accepted limits. The data also showed high myocardial uptake at rest that significantly increased with pharmacologically induced stress as well as a ratio of myocardial to

background uptake that was favorable and improved over time, suggesting encouraging potential as a myocardial perfusion PET imaging agent for patients both at rest and under stress.

About PET and MPI

Positron emission tomography, also called PET imaging or a PET scan, is a type of nuclear medicine imaging procedure[2] that provides information about the function and metabolism of the body's organs, unlike computed tomography (CT) or magnetic resonance imaging (MRI), which primarily show anatomy and structure[3]. Myocardial perfusion imaging (MPI) is a non-invasive test that utilizes a small amount of radioactive material (radiopharmaceutical) injected into the body to depict the distribution of blood flow to the heart[4]. MPI is used to identify areas of reduced blood flow (perfusion) to the heart muscle[4]. The test is typically conducted under both rest and stress conditions, after which physicians examine and compare the two scans and predict whether the patient has significant coronary artery disease[4]. Although single-photon emission computer tomography (SPECT) is most commonly used for MPI [5], PET imaging has gained considerable support and use in the field of cardiovascular imaging, as it offers many advantages to SPECT, including higher spatial and contrast resolution, which results in higher image quality and improved diagnostic accuracy, accurate attenuation correction and risk stratification[6].

About Lantheus Medical Imaging, Inc.

Lantheus Medical Imaging, Inc., a worldwide leader in diagnostic medicine for more than 50 years, is dedicated to creating and providing pioneering medical imaging solutions to improve the treatment of human disease. The company's proven success in discovering, developing and marketing innovative medical imaging agents provides a strong platform from which to bring forward breakthrough new tools for the diagnosis and management of disease. Lantheus imaging products include the echocardiography contrast agent DEFINITY® Vial for (Perflutren Lipid Microsphere) Injectable Suspension, ABLAVAR® (gadofosveset trisodium), a first-in-class magnetic resonance agent indicated for the evaluation of aortoiliac occlusive disease in adults with known or suspected peripheral vascular disease, TechneLite® (Technetium Tc99m Generator), Cardiolite® (Kit for the Preparation of Technetium Tc99m Sestamibi for Injection), and Thallium 201 (Thallous Chloride Tl 201 Injection). Lantheus has more than 600 employees worldwide with headquarters in North Billerica, Massachusetts, and offices in Puerto Rico, Canada and Australia. For more information, visit www.lantheus.com.

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4. Society of Nuclear Medicine. Procedure Guidelines for Myocardial Perfusion Imaging. Version 3.0 June 2002. http://interactive.snm.org/docs/pg_ch02_0403.pdf. Accessed on May 24, 2010.

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6. Heller, G, Calnon, D and Dorbala, S. Recent Advances in Cardiac PET and PET/CT Myocardial Perfusion Imaging. *J Nucl Cardiol* 2009; 16:962-9.