



## **GE Healthcare and Takeda Join Forces to Develop Therapeutic Drugs to Target Liver Diseases**

- *Worldwide trends of aging populations and less healthy lifestyle habits, are contributing to the rise of non-alcoholic fatty liver disease (NAFLD)<sup>1</sup>*
- *More than 100 million people are estimated to be suffering from NAFLD (15% to 20% of the populations of advanced industrial nations)<sup>2</sup>*
- *This alliance is key to enabling the early development of therapeutic drugs through the use of a minimally invasive diagnostic technology*

**Chalfont St. Giles, U.K., and Osaka, Japan, November 11, 2014** – GE Healthcare and Takeda Pharmaceutical Company Limited announced that they have entered into an alliance agreement for research and development focusing on imaging modalities in the field of hepatic fibrosis, a key factor in the diagnosis and treatment of liver diseases. This announcement coincides with AASLD, the 65th Annual Meeting of the American Association for the Study of Liver Diseases, being held from 7-11 November in Boston, MA, USA.

Early stages of liver disease have almost no clinical symptoms; disease progress is characterized by a hardening of the tissues due to fibrosis accompanying the inflammation of the liver and a worsening of symptoms due to cirrhosis. Amid such worldwide trends of recent years as the aging population and less healthy lifestyle habits, non-alcoholic fatty liver disease (NAFLD) has emerged as a type of metabolic syndrome.

Over the past couple of decades, NAFLD and non-alcoholic steatohepatitis (NASH) have become the number one cause of liver disease in developed countries<sup>2</sup>. The prevalence of NAFLD has doubled during the last 20 years, whereas the prevalence of other chronic liver diseases has remained stable or even decreased. More recent data confirm that NAFLD and NASH play an equally important role in developing regions like the Middle East, Far East, Africa, the Caribbean, and Latin America<sup>2</sup>. Early diagnosis of hepatic fibrosis as well as the development of drugs to control the progression of liver disease has become important issues.

According to the alliance agreement, GE Healthcare will provide Takeda with its diagnostic imaging technology used to generate a liver stiffness map as part of the research and development work Takeda is conducting on liver diseases. By optimizing the strengths of both companies in the alliance, the collaborative effort aims to help develop therapeutic drugs as well as new diagnostic technologies for liver diseases.

Currently, the diagnosis of hepatic fibrosis is most commonly conducted by a liver biopsy, in which a needle is inserted through the skin into the liver, a sample of which is then removed for measurement. With MR elastography commercialized by GE Healthcare, in use in the United States since 2009 and in Japan since 2012, it has become possible to measure the relative stiffness of liver tissues in a non-

invasive manner. It is expected that this kind of GE Healthcare diagnostic technology will contribute to Takeda's efforts to develop innovative medicines.

“It gives me great pleasure to have been able to build this alliance with GE Healthcare to develop therapeutic drugs to treat liver diseases,” said Tadataka Yamada, M.D., Chief Medical & Scientific Officer at Takeda. “This alliance will assist efforts to develop new therapeutic options that ease the burden on the patient. Moving forward, we will continue to put the patient first and incorporate a wide range of innovations into the field of drug discovery.”

“It is extremely gratifying to me that, through this collaboration, our technologies will be of use in the development of treatments for the liver diseases that are of particular importance not just in Asia, but worldwide,” said Akihiko Kumagai, Chairman of GE Healthcare Japan with overall responsibility for liver disease programs. “We have been focusing efforts on developing technologies to help provide solutions for liver cancer. As one location in our global research and development network, Japan, whose strategy is to create solutions for an aging population, has been a driving force behind these efforts. Innovations by GE will continue to contribute to the health of people all around the world.”

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Notes to the Editor:

#### **About the agreement**

Details about the terms of the agreement including financial stipulations are not being disclosed. The contract pertains to an alliance involving diagnoses in the development of therapeutic drugs for liver disease.

#### **About MR elastography**

MR elastography is a technology in which MRI is used to generate images depicting the elasticity of the body's internal tissues based on pulses administered externally. The main characteristic of the technology is its ability to distinguish and differentiate by color the relative stiffness of tissue.

Measurement data acquired from the region of interest (ROI) defined for an image reflect the relative stiffness (elasticity) of the liver. Clinically, the technology holds promise for potentially aiding in the assessment of liver disease amid the uptrend in liver disease accompanying the ongoing aging trend in the world's population. For more details:

[http://www3.gehealthcare.com/en/products/categories/magnetic\\_resonance\\_imaging/pediatric\\_imaging/mr\\_touch](http://www3.gehealthcare.com/en/products/categories/magnetic_resonance_imaging/pediatric_imaging/mr_touch)

#### **About GE Healthcare**

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

## **About Takeda Pharmaceutical Company Limited**

Located in Osaka, Japan, Takeda is a research-based global company with its main focus on pharmaceuticals. As the largest pharmaceutical company in Japan and one of the global leaders of the industry, Takeda is committed to strive towards better health for people worldwide through leading innovation in medicine. Additional information about Takeda is available through its corporate website, [www.takeda.com](http://www.takeda.com).

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<sup>1</sup> [http://www.merckmanuals.com/professional/hepatic\\_and\\_biliary\\_disorders/fibrosis\\_and\\_cirrhosis/hepatic\\_fibrosis.html](http://www.merckmanuals.com/professional/hepatic_and_biliary_disorders/fibrosis_and_cirrhosis/hepatic_fibrosis.html)

<sup>2</sup> [http://www.worldgastroenterology.org/assets/export/userfiles/2012\\_NASH%20and%20NAFLD\\_Final\\_long.pdf](http://www.worldgastroenterology.org/assets/export/userfiles/2012_NASH%20and%20NAFLD_Final_long.pdf)