

## Press Release

# Daiichi Sankyo Initiates Phase 2 Study of DS-8201 in Patients with Advanced HER2-Overexpressing or HER2-Mutated Non-Squamous Non-Small Cell Lung Cancer

- Global phase 2 study will evaluate safety and efficacy of DS-8201 in patients with unresectable and/or metastatic non-squamous HER2-overexpressing or HER2-mutated non-small cell lung cancer
- Currently no therapy is specifically approved for HER2-overexpressing or HER2-mutated non-small cell lung cancer
- DS-8201 is now being evaluated in numerous studies, underscoring the commitment of Daiichi Sankyo to the development of the antibody drug conjugate across multiple types of HER2-expressing cancers including breast, gastric, colorectal and lung

**Tokyo, Basking Ridge, NJ, and Munich – (May 31, 2018)** – Daiichi Sankyo Company, Limited (hereafter, Daiichi Sankyo) announced today that the first patient has been dosed in a global phase 2 study evaluating the efficacy and safety of DS-8201, an investigational HER2-targeting antibody drug conjugate (ADC), in patients with unresectable and/or metastatic non-squamous HER2-overexpressing or HER2-mutated non-small cell lung cancer (NSCLC) that has progressed after one or more prior therapies.

The introduction of targeted therapies and checkpoint inhibitors in recent years has improved the treatment landscape for metastatic NSCLC patients, who previously had limited options beyond systemic chemotherapy.<sup>1,2</sup> However, for those who are not eligible for available treatments, or whose cancer continues to progress, new approaches are needed to help manage the disease.<sup>1</sup> HER2 overexpression has been reported in rates ranging from 4 to 35 percent of NSCLC, depending on the published series and methods, and is associated with poor disease prognosis and shortened overall survival.<sup>1,3</sup> HER2 mutations have more recently been identified as distinct molecular targets for NSCLC and have been reported in up to 5 percent of NSCLC.<sup>4,5</sup> Currently no therapy is specifically approved for HER2-overexpressing or HER2-mutated non-small cell lung cancer.

“There is renewed interest in exploring alterations in the HER2 pathway as treatment targets for NSCLC and clinical research suggests a potential role for a HER2-targeting ADC agent,” said Gilles Gallant, BPharm, PhD, Vice President, Global Team Leader DS-8201, Oncology Research and Development, Daiichi Sankyo. “DS-8201 is specifically designed to target and deliver chemotherapy inside HER2-expressing cancer cells, and we are advancing it to phase 2 in non-small cell lung cancer as part of our broad program in multiple types of HER2-expressing tumors.”

### About the DS-8201 NSCLC Study

The global, multicenter, phase 2, open-label, two-cohort study is investigating the safety and efficacy of DS-8201 in patients with HER2-overexpressing and/or HER2-mutated unresectable and/or metastatic

non-squamous NSCLC that has progressed after one or more systemic therapies (including chemotherapy, molecular targeted therapy or immunotherapy). Cohort 1 will enroll approximately 40 patients with HER2-overexpressing (defined as IHC 3+ or IHC 2+), unresectable and/or metastatic non-squamous NSCLC, and Cohort 2 will enroll approximately 40 patients with HER2-mutated, unresectable and/or metastatic non-squamous NSCLC.

The primary endpoint is objective response rate. Key secondary endpoints include efficacy (duration of response, disease control rate, progression free survival, overall survival and investigator-assessed objective response rate), safety, and pharmacokinetic endpoints. Exploratory efficacy endpoints include time to response as well as biomarker endpoints for mechanisms of response and resistance.

This study is expected to enroll the approximately 80 patients at 20 sites in North America, Japan, and Europe. For more information about the study, visit [ClinicalTrials.gov](http://ClinicalTrials.gov).

### **About Non-Small Cell Lung Cancer (NSCLC)**

Lung cancer is the most common cancer in the world and the leading cause of cancer deaths.<sup>6,7</sup> There were approximately 1.8 million new cases of lung cancer reported globally in 2012 and approximately 1.69 million deaths globally from lung cancer in 2015.<sup>6,7</sup> Lung cancer is the most common cancer in men, and incidence among women is increasing in many parts of the world.<sup>7</sup>

### **About DS-8201**

DS-8201 is the lead product in the investigational ADC Franchise of the Daiichi Sankyo Cancer Enterprise. ADCs are targeted cancer medicines that deliver cytotoxic chemotherapy (“payload”) to cancer cells via a linker attached to a monoclonal antibody that binds to a specific target expressed on cancer cells. Designed using Daiichi Sankyo’s proprietary ADC technology, DS-8201 is a smart chemotherapy comprised of a humanized HER2 antibody attached to a novel topoisomerase I inhibitor payload by a tetrapeptide-based linker. It is designed to target and deliver chemotherapy inside cancer cells and reduce systemic exposure to the cytotoxic payload (or chemotherapy) compared to the way chemotherapy is commonly delivered.

In addition to the phase 2 NSCLC study, DS-8201 is currently in pivotal phase 2 clinical development for HER2-positive unresectable and/or metastatic breast cancer resistant or refractory to T-DM1 ([DESTINY-Breast01](#)) in North America, Europe and Asia; pivotal phase 2 development for HER2-positive advanced gastric cancer resistant or refractory to trastuzumab ([DESTINY-Gastric01](#)) in Japan and South Korea; phase 2 development in advanced colorectal cancer in North America, Europe and Japan; and phase 1 development for other HER2-expressing advanced/unresectable or metastatic solid tumors in the U.S. and Japan.

DS-8201 has been granted Breakthrough Therapy designation for the treatment of patients with HER2-positive, locally advanced or metastatic breast cancer who have been treated with trastuzumab and

pertuzumab and have disease progression after ado-trastuzumab emtansine (T-DM1), and Fast Track designation for the treatment of HER2-positive unresectable and/or metastatic breast cancer in patients who have progressed after prior treatment with HER2-targeted therapies including T-DM1 by the U.S. Food and Drug Administration (FDA). DS-8201 has received SAKIGAKE Designation for the treatment of HER2-positive advanced gastric or gastroesophageal junction cancer by the Japan Ministry of Health, Labour and Welfare (MHLW). DS-8201 is an investigational agent and is not approved by the FDA or any other regulatory agency worldwide as a treatment for any indication. Safety and efficacy have not been established.

### **About Daiichi Sankyo Cancer Enterprise**

The mission of Daiichi Sankyo Cancer Enterprise is to leverage our world-class, innovative science and push beyond traditional thinking to create meaningful treatments for patients with cancer. We are dedicated to transforming science into value for patients, and this sense of obligation informs everything we do. Anchored by three pillars including our investigational Antibody Drug Conjugate Franchise, Acute Myeloid Leukemia Franchise and Breakthrough Science, we aim to deliver seven distinct new molecular entities over eight years during 2018 to 2025. Our powerful research engines include two laboratories for biologic/immuno-oncology and small molecules in Japan, and Plexxikon Inc., our small molecule structure-guided R&D center in Berkeley, CA. Compounds in pivotal stage development include: DS-8201, an antibody drug conjugate (ADC) for HER2-expressing breast, gastric and other cancers; quizartinib, an oral selective FLT3 inhibitor, for newly-diagnosed and relapsed/refractory acute myeloid leukemia (AML) with *FLT3*-ITD mutations; and pexidartinib, an oral CSF1R inhibitor, for tenosynovial giant cell tumor (TGCT). For more information, please visit:

[www.DSCancerEnterprise.com](http://www.DSCancerEnterprise.com).

### **About Daiichi Sankyo**

Daiichi Sankyo Group is dedicated to the creation and supply of innovative pharmaceutical products to address diversified, unmet medical needs of patients in both mature and emerging markets. With over 100 years of scientific expertise and a presence in more than 20 countries, Daiichi Sankyo and its 15,000 employees around the world draw upon a rich legacy of innovation and a robust pipeline of promising new medicines to help people. In addition to a strong portfolio of medicines for hypertension and thrombotic disorders, under the Group's 2025 Vision to become a "Global Pharma Innovator with Competitive Advantage in Oncology," Daiichi Sankyo research and development is primarily focused on bringing forth novel therapies in oncology, including immuno-oncology, with additional focus on new horizon areas, such as pain management, neurodegenerative diseases, heart and kidney diseases, and other rare diseases. For more information, please visit: [www.daiichisankyo.com](http://www.daiichisankyo.com). Daiichi Sankyo, Inc., headquartered in Basking Ridge, New Jersey, is a member of the Daiichi Sankyo Group. For more information on Daiichi Sankyo, Inc., please visit: [www.dsi.com](http://www.dsi.com).

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## References

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<sup>2</sup> The National Comprehensive Care Network (NCCN). *NCCN Clinical Practice Guidelines in Non-Small Cell Lung Cancer* Version 3. 2018

<sup>3</sup> Nakamura H et al. *Cancer*. 2005 May 1;103(9):1865-73.

<sup>4</sup> Landi and Cappuzzo. *Expert Review of Anticancer Therapy*. 2013;13(10): 1219-28.

<sup>5</sup> Pillai RN et al. *Cancer*. 2017 Nov 1;123(21):4099-4105.

<sup>6</sup> World Health Organization. *Cancer Fact Sheet*. 2017

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