

News Release

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Merck KGaA, Darmstadt, Germany Strengthens Immuno-Oncology Portfolio through Expansion of F-star Collaboration including LAG-3/PD-L1 Bispecific Antibody

- **New strategic collaboration to develop and commercialize bispecific immuno-oncology antibodies, including LAG-3/PD-L1 asset FS118**
- **Potential for Merck KGaA, Darmstadt, Germany to rapidly expand its immuno-oncology portfolio, supporting the goal to be a leader in this area of research**

Darmstadt, Germany, June 4, 2017 – Merck KGaA, Darmstadt, Germany, a leading science and technology company which operates its biopharmaceutical business as EMD Serono in the U.S. and Canada, today announced a new strategic collaboration with biopharmaceutical company F-star, Cambridge, UK, for the development and commercialization of five bispecific immuno-oncology antibodies. Beyond these five bispecific antibodies, Merck KGaA, Darmstadt, Germany will have further rights to replace, as well as to add to these antibodies using F-star's bispecific antibody platform. This collaboration will further strengthen Merck KGaA, Darmstadt, Germany's immuno-oncology pipeline and underscores the commitment to discovering and developing breakthrough cancer therapies that make a meaningful difference to patients' lives.

"Our collaboration with F-star will help us to rapidly enhance our pipeline and grow our portfolio of bispecific immunotherapies," said Luciano Rossetti, Executive Vice President, Global Head of Research & Development at the biopharma business of Merck KGaA, Darmstadt, Germany. "This deal complements our internal capabilities



in immuno-oncology and positions us as a potential leader in this important area of research.”

Under these agreements and upon delivery of pre-defined data packages, Merck KGaA, Darmstadt, Germany has the option to acquire five of F-star’s bispecific programs. This option includes exclusive development and commercialization rights to F-star’s preclinical lead asset FS118, which is designed to block LAG-3 (Lymphocyte-Activation Gene 3) and PD-L1 (Programmed Death-Ligand 1), two pathways commonly used by cancer cells to evade the immune system. In addition, F-star will grant Merck KGaA, Darmstadt, Germany exclusive development and commercial rights to four novel bispecific antibodies of Merck KGaA, Darmstadt, Germany’s choosing from F-star’s bispecific antibody platform. These bispecific antibodies target specific pathways to augment the anti-tumor immune response. In return, Merck KGaA, Darmstadt, Germany will pay up to €115 million in upfront, R&D funding and milestone payments in the first 2 years, and may make further payments upon exercising its option and based on milestones.

Merck KGaA Darmstadt, Germany already has a bifunctional antibody in its pipeline, M7824. Currently in Phase I, M7824 is believed to combine two mechanisms in one molecule to fight cancer. The addition of assets from F-star’s bispecific antibody platform enrich and complement Merck KGaA Darmstadt, Germany’s existing in-house technologies investigating molecules that offer the potential advantage of taking a dual approach to tackling cancer. Discovered in-house, M7824 is an investigational immunotherapy designed to simultaneously block two immuno-inhibitory pathways (PD-L1 and TGF- β) that are commonly used by cancer cells to evade the immune system.

“This immuno-oncology collaboration expands our strong relationship with Merck KGaA, Darmstadt, Germany and is a further validation of the potential of F-star’s bispecific antibody platform,” said John Haurum, CEO of F-star. “Our vision is to transform the treatment of cancer. This is the objective of partnering our lead asset FS118 and other next-generation immuno-oncology compounds with Merck KGaA, Darmstadt, Germany.”

Merck KGaA, Darmstadt, Germany is committed to exploring an array of targets, and taking creative scientific approaches to developing novel therapies for hard-to-treat cancers. With the belief that rational combination is the key to the future of new and more efficacious treatment options, Merck KGaA, Darmstadt, Germany has a particular focus on combination therapies, whether it be with chemotherapy/radiotherapy, other targeted therapies and/or immunotherapies from its own or external portfolios. The strength of Merck KGaA, Darmstadt, Germany's promising oncology development program and growing presence in the field of immuno-oncology demonstrates how the company is re-imagining the way cancer care is delivered.

For further information and press materials on Merck KGaA, Darmstadt, Germany activities in oncology, please visit

http://www.emdgroup.com/emd/media/media_center_oncology.html

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About Merck KGaA, Darmstadt, Germany

Merck KGaA, Darmstadt, Germany, is a leading science and technology company in healthcare, life science and performance materials. Around 50,000 employees work to further develop technologies that improve and enhance life – from biopharmaceutical therapies to treat cancer or multiple sclerosis, cutting-edge systems for scientific research and production, to liquid crystals for smartphones and LCD televisions. In 2016, Merck KGaA, Darmstadt, Germany, generated sales of € 15.0 billion in 66 countries. Founded in 1668, Merck KGaA, Darmstadt, Germany, is the world's oldest pharmaceutical and chemical company. The founding family remains the majority owner of the publicly listed corporate group. Merck KGaA, Darmstadt, Germany, holds the global rights to the „Merck“ name and brand. The only exceptions are the United States and Canada, where the company operates as EMD Serono, MilliporeSigma and EMD Performance Materials.