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News Release

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Merck KGaA, Darmstadt, Germany, Agrees to Return Kuvan® Rights to BioMarin Pharmaceutical to Strengthen Focus on Core Business

- **Agreement with BioMarin, a leading company in the treatment of genetic and rare diseases, also includes returning option to develop and commercialize Peg-Pal**
- **Merck KGaA, Darmstadt, Germany, to receive upfront payment of € 340 million, plus up to € 185 million in additional milestones**

Darmstadt, Germany, October 1, 2015 – Merck KGaA, Darmstadt, Germany, a leading company for innovative and top-quality high-tech products in healthcare, life science and performance materials, today announced that it has reached an agreement with BioMarin Pharmaceutical, Inc., San Rafael, California, U.S., to return the rights to Kuvan®, used to treat phenylketonuria (PKU), a rare metabolism disorder, as the company focuses its healthcare business on core areas.

In addition to Kuvan®, the two companies agreed that Merck KGaA, Darmstadt, Germany, will return its option to develop and commercialize Peg-Pal, an investigational drug that is also designed for the treatment of PKU, an autosomal recessive genetic disorder caused by either a defect or a deficiency of the enzyme phenylalanine hydroxylase or its co-factor tetrahydrobiopterin. Merck KGaA, Darmstadt, Germany, will receive an upfront payment of € 340 million, equal to five times its annual sales, for Kuvan®, plus up to € 185 million in additional milestones for both products. The agreement is expected to become effective Jan. 1, 2016.

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“Returning the rights of Kuvan® and Peg-Pal to BioMarin will allow Merck KGaA, Darmstadt, Germany, to fully focus on its core businesses, as well as further align R&D investment behind key strategic areas," said Belén Garijo, Member of the Executive Board of Merck KGaA, Darmstadt, Germany, and CEO Healthcare. “Patients suffering from PKU will continue to benefit from these therapeutic options, as well as from BioMarin’s long-term expertise in rare diseases.”

Merck KGaA, Darmstadt, Germany, remains highly committed to the patients in the field of endocrinology, and in particular to advancing the treatment of growth hormone deficient patients with Saizen®.

Over the past years, Merck KGaA, Darmstadt, Germany, has re-aligned its healthcare business with a special focus on developing novel therapies in the areas of neurology, oncology, immuno-oncology and immunology, in addition to maximizing its existing portfolio of drugs in developed countries as well as expanding its footprint in Emerging Markets.

Merck KGaA, Darmstadt, Germany, had acquired the rights for Kuvan® and the option to Peg-Pal in markets outside of the U.S. and Japan from BioMarin in 2005.* Since launching Kuvan® as a treatment alternative to diet alone, which constituted a paradigm shift at the time, Merck KGaA, Darmstadt, Germany, has significantly contributed to improving PKU management. More recently, the SPARK study of Merck KGaA, Darmstadt, Germany, helped pave the way for the treatment of infants with PKU below 4 years of age with Kuvan®. By returning the rights to BioMarin, Merck KGaA, Darmstadt, Germany, is confident that the product will continue to serve the best interest of the medical community and patients. A leading company in the treatment of genetic and rare diseases, BioMarin is dedicated to improving the treatment options and to providing all resources needed to continue to make Kuvan® available, as well as to explore potential future therapies in this area, such as Peg-Pal. Merck KGaA, Darmstadt, Germany, will work closely with BioMarin during the transition to ensure continuous access to Kuvan® for patients, physicians and health authorities.

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Kuvan® is indicated for the treatment of hyperphenylalaninemia (HPA) due to PKU in patients of all ages who have shown to be responsive to Kuvan®, or due to tetrahydrobiopterin (BH4) deficiency.

In a conference call later today, (October 1, 2015, 14:00 CEST) management of Merck KGaA, Darmstadt, Germany, discusses key focus areas on its healthcare pipeline in immune-oncology (the call can be followed live here).

** The biopharmaceutical business of Merck KGaA, Darmstadt, Germany, also acquired the rights to Kuvan® in Canada as a part of this original agreement in 2005, but returned those rights in 2007.*

About phenylketonuria (PKU)
PKU is an autosomal recessive genetic disorder caused by a defect or a deficiency of the enzyme phenylalanine hydroxylase (PAH) or its cofactor tetrahydrobiopterin (BH4). PAH is required for the metabolism of phenylalanine, an essential amino acid found in all protein-containing foods. It affects approximately 1/10,000 newborns in Europe. If PKU patients are not treated with a phenylalanine-restricted diet, phenylalanine will accumulate in the blood and brain to abnormally high levels, thereby resulting in a variety of complications including mental retardation and brain damage, mental illness, seizures and tremors, and clinically significant cognitive problems. Universal systematic newborn screening programs were developed in the 1960s and early 1970s to enable diagnosis of all patients with PKU patients at birth.

About Kuvan®
Kuvan® (sapropterin dihydrochloride) is the first oral therapy and approved for the treatment of hyperphenylalaninemia (HPA) due to phenylketonuria (PKU) in patients of all age who have shown to be responsive to Kuvan® or due to tetrahydrobiopterin (BH4) deficiency®. Kuvan® was developed jointly by BioMarin Pharmaceutical Inc. and the biopharmaceutical business of Merck KGaA, Darmstadt, Germany. Kuvan® is to be used in conjunction with a phenylalanine-restricted diet.
Kuvan® is the synthetic form of 6R-BH4, a naturally occurring co-factor that works in conjunction with the enzyme phenylalanine hydroxylase (PAH) to metabolize phenylalanine into tyrosine. Clinical data show that Kuvan® produces significant reductions in blood phenylalanine concentration in a large subset of patients.
Most common adverse reactions reported with the use of Kuvan® include headache, rhinorrhea, pharyngolaryngeal pain, nasal congestion, cough, diarrhea, vomiting, abdominal pain, and low levels of phenylalanine in the blood.
Kuvan® is approved in 51 countries worldwide, including member states of the European Union and the USA. Under the terms of the former agreement with BioMarin, the biopharmaceutical business of Merck KGaA, Darmstadt, Germany, had received exclusive rights to market Kuvan® in all territories outside the USA, Canada and Japan, all these rights have now been returned to BioMarin.

About Peg-Pal
PEG-PAL (PEGylated recombinant phenylalanine ammonia lyase or 'PAL', pegvaliase) is an investigational drug that substitutes for the PAH enzyme in phenylketonuria (PKU). PEG-PAL is being developed as a potential treatment for patients whose blood phenylalanine levels are not adequately controlled by Kuvan® or who have trouble controlling and maintaining their phenylalanine levels).

About BioMarin
BioMarin is a global biotechnology company that develops and commercializes innovative therapies for patients with serious and life-threatening rare and ultra-rare genetic diseases. The company's portfolio consists of five commercialized products and multiple clinical and pre-clinical product candidates.

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Merck KGaA of Darmstadt, Germany, is a leading company for innovative and top-quality high-tech products in healthcare, life science and performance materials. The company has six businesses – Biopharmaceuticals, Consumer Health, Allergopharma, Biosimilars, Life Science and Performance Materials – and generated sales of € 11.3 billion in 2014. Around 39,000 employees work in 66 countries to improve the quality of life for patients, to foster the success of customers and to help meet global challenges. Merck KGaA, Darmstadt, Germany, is the world's oldest pharmaceutical and chemical company – since 1668, the company has stood for innovation, business success and responsible entrepreneurship. Holding an approximately 70% interest, the founding family remains the majority owner of the company to this day. Merck KGaA, Darmstadt, Germany holds the global rights to the Merck name and brand. The only exceptions are Canada and the United States, where the company operates as EMD Serono, EMD Millipore and EMD Performance Materials.