

## News Release

Your Contact

Giulia.bachmann@emdgroup.com

Phone: +49 6151 72-55707

July 2, 2020

# **Merck KGaA, Darmstadt, Germany to Develop Automated Diagnostic Tool for Neglected Tropical Diseases together with Janssen**

- **Combined efforts aim to develop an artificial intelligence (AI) technology that detects both schistosomiasis and soil-transmitted helminthiasis**
- **AI technology has the potential to improve diagnostic efficiency, data accuracy and decision making for mass drug administration programs**
- **Merck KGaA, Darmstadt, Germany has been fighting against the neglected tropical disease schistosomiasis since 2007**

Darmstadt, Germany, July 2, 2020 – Merck KGaA, Darmstadt, Germany, a leading science and technology company, today announced that it has entered into an agreement with Janssen Pharmaceutica, N.V., part of the Janssen Pharmaceutical Companies of Johnson & Johnson, to develop an Artificial Intelligence (AI) based diagnostic tool to improve the detection of the Neglected Tropical Diseases (NTDs) schistosomiasis and soil-transmitted helminthiasis (STH).

“The world is currently facing a major health crisis while vulnerable patients suffering from NTDs continue to require treatment and care,” said Béatrice Greco, Head of Research & Development at the Global Health Institute of Merck KGaA, Darmstadt, Germany. “We are extremely proud of this unique partnership with Janssen. Together, we are joining forces to improve the accuracy of diagnostic methods used for several NTDs and to reduce the burden of reporting and surveillance for countries.”

Page 1 of 3



## News Release

Control and gradual elimination of these diseases are crucial and require the development of advanced innovative technologies to diagnose patients, who are often co-infected with multiple pathogens. Data quality is an essential component of making informed treatment decisions and coordinating mass drug administration campaigns that target NTDs.

The prototype which is currently being tested consists of an automated microscope with AI and data visualization tool. The AI counts parasite eggs that would develop into parasitic worms of either schistosomiasis or STH. This automated counting process is aimed at being both faster and more reliable than the current survey method, in which a lab technician counts the eggs in each sample manually. Digital data storage and data visualization will improve the clinical decision making for drug administration by the countries. The prototype testing will continue throughout 2020 and move into the clinical utility testing phase in 2021 through 2023.

Schistosomiasis is a chronic condition and one of the most common and most devastating parasitic diseases in tropical countries. Merck KGaA, Darmstadt, Germany has been fighting against this NTD with its partner, the World Health Organization (WHO), since 2007 in the scope of its [Schistosomiasis Elimination Program](#) and donates up to 250 million of praziquantel tablets for treatment per year. The company and WHO committed themselves to continue their work in fighting the disease until its elimination. Merck KGaA, Darmstadt, Germany has been implementing a comprehensive approach combining treatment, research and development, health education and WASH (water, sanitation and hygiene) to control transmission and eliminate the disease.

Merck KGaA, Darmstadt, Germany uses AI in many different areas of its three businesses. In its Healthcare business for example, the company uses [AI in drug discovery](#) as a way to accelerate the process and to reduce its costs. Other AI use cases have been made in areas as diverse as material sciences, digital pathology or information extraction from patents. Merck KGaA, Darmstadt, Germany also cooperates with other companies in the area of AI such as [Iktos](#), [Cyclica](#), China's Ping An Good Doctor and Aera Technology. Additionally, an interdisciplinary team of mathematicians, computer scientists, and neuroscientists aims to rethink the foundations of artificial and biological intelligence as an inhouse research team.

## News Release

### **About schistosomiasis**

Schistosomiasis (also known as bilharzia) is one of the most prevalent parasitic diseases in sub-Saharan Africa, caused by parasitic flatworms called schistosomes. It affects almost 240 million people, mainly in communities without access to safe drinking water and with poor sanitation, with an estimated number of deaths of about 200,000 per year. The parasites live within freshwater snails and infect humans by penetrating the skin. The disease can lead to chronic inflammation of the organs, which can be fatal but also to anaemia, stunted growth and impaired learning ability with devastating consequences for the lives of the young children.

### **About soil-transmitted helminthiasis**

Soil-transmitted helminthiasis (STH) is considered the most widespread of NTDs and has a particularly damaging impact on the health and development of children. Approximately 1.5 billion people, nearly 20% of the world's population, are infected with STH. It is transmitted by eggs present in human feces, which can contaminate the soil in areas where sanitation is poor. Nearly 270 million preschool-age children and nearly 570 million school-age children live in endemic areas and are in need of public health interventions such as preventive chemotherapy, sanitation, and safe water. The most common species that affect people are roundworm, whipworm, and hookworm.

### **About the Global Health Institute of Merck KGaA, Darmstadt, Germany**

The [Global Health Institute](#) is part of the Global Health department at Merck KGaA, Darmstadt, Germany and aims to improve the health of underserved populations in low- and middle-income countries through science and technology innovation, and in close collaboration with partners. Its mission is to develop and provide access to transformative health solutions (treatments, diagnostics, vector controls) and including health care system strengthening approaches to the most vulnerable populations suffering from infectious diseases, mainly schistosomiasis and malaria.

All Merck KGaA, Darmstadt, Germany, press releases are distributed by e-mail at the same time they become available on the EMD Group Website. In case you are a resident of the USA or Canada please go to [www.emdgroup.com/subscribe](http://www.emdgroup.com/subscribe) to register for your online subscription of this service as our geo-targeting requires new links in the email. You may later change your selection or discontinue this service.

### **About Merck KGaA, Darmstadt, Germany**

Merck KGaA, Darmstadt, Germany, a leading science and technology company, operates across healthcare, life science and performance materials. Around 57,000 employees work to make a positive difference to millions of people's lives every day by creating more joyful and sustainable ways to live. From advancing gene editing technologies and discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices – the company is everywhere. In 2019, Merck KGaA, Darmstadt, Germany, generated sales of € 16.2 billion in 66 countries.

The company holds the global rights to the name and trademark "Merck" internationally. The only exceptions are the United States and Canada, where the business sectors of Merck KGaA, Darmstadt, Germany operate as EMD Serono in healthcare, MilliporeSigma in life science, and EMD Performance Materials. Since its founding 1668, scientific exploration and responsible entrepreneurship have been key to the company's technological and scientific advances. To this day, the founding family remains the majority owner of the publicly listed company.