



FOR IMMEDIATE RELEASE

ICGEB & Sun Pharma sign an exclusive agreement to develop novel botanical drug for treatment of Dengue

- *A global programme to develop botanical drug by Sun Pharma in collaboration with the International Centre for Genetic engineering and Biotechnology (ICGEB), New Delhi*
- *ICGEB & Sun Pharma to combine experience, interest, knowledge & expertise for development of Cipa, a botanical drug, for treatment of dengue worldwide*
- *Sun Pharma to fund entire development programme as well pay royalty following commercialization of the drug, financial & investment details confidential*
- *ICGEB will provide the technical know-how and pre-clinical expertise*
- *Sun Pharma to develop this drug with appropriate pre-clinical & clinical studies to register it in India and other global markets*

NEW DELHI – May 4, 2016: International Centre for Genetic Engineering and Biotechnology (ICGEB) and Sun Pharma (Reuters: SUN.BO, Bloomberg: SUNP IN, NSE: SUNPHARMA, BSE: 524715, Sun Pharmaceutical Industries Ltd and includes its subsidiaries or associate companies) today signed an agreement to develop a novel botanical drug for treatment of dengue. Through this agreement, Sun Pharma commits development of *Cissampelos pariera* (*Cipa*), a botanical drug in collaboration with ICGEB. Through this agreement Sun Pharma will follow up on earlier pre-clinical collaboration between ICGEB and erstwhile Ranbaxy Laboratories Ltd. Sun Pharma will develop *Cipa*, a botanical drug following a drug registration process similar to a new chemical entity, consisting of all required in-vitro, in-vivo, pre-clinical and clinical studies meeting all regulatory standards of India and other regulatory agencies worldwide.



According to Dr. Dinakar M. Salunke, Director International Centre for Genetic Engineering and Biotechnology , New Delhi, “Dengue, a mosquito-borne viral disease, poses a significant global public health risk. In tropical countries such as India where periodic dengue outbreaks can be correlated to the high prevalence of the mosquito vector, circulation of all four dengue viruses (DENVs) and the high population density, a drug for dengue is being increasingly recognized as an unmet public health need. Using the knowledge of traditional Indian medicine, we explored the indigenous herbal bio-resource to identify plants with pan-DENV inhibitory activity and identified CIPA as a safe, affordable and effective solution.”

Commenting on the company’s partnership with ICGEB, Mr Kirti Ganorkar, Senior Vice President – Business Development & Portfolio Management, Sun Pharma said, “Dengue poses a significant global public health risk. In tropical countries like India where dengue outbreaks are significantly intense, a drug for dengue is recognised as an unmet public health need. Our partnership with ICGEB aims to develop Cipa as a safe, effective & affordable botanical drug for treatment of dengue.”

The terms of this agreement permits Sun Pharma’s access to all the intellectual properties of this drug cross 17 countries. ICGEB will establish assay systems for development of *Cipa* for treatment of dengue infection for a pre-defined period of time. ICGEB will work exclusively with Sun Pharma for the development of this drug and clinical treatment strategies based on botanical and phyto-pharmaceuticals. Sun Pharma will pay royalties on sales post commercialisation. Other financial details of this agreement are confidential.

A botanical drug is a plant-derived medicinal product that is intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in humans. These medicines are based on complex botanical compounds and can offer multiple agent solution, selectively and differentially affecting various target tissues. These characteristics make botanical drugs safe and effective. As any other new drug, Sun Pharma will scientifically substantiate the safety and effectiveness, manufacture under appropriate standards and build a strong intellectual property base to support commercialization of its botanical dengue drug.

India represents nearly 50% of the global population estimated to be at risk of dengue. Severe dengue, which is potentially fatal, correlates with very high virus load, reduction in platelet counts and haemorrhage. Antiviral therapy to reduce high virus load may be beneficial in attenuating disease severity. ICGEB and Sun Pharma through this collaboration are developing innovative botanical opportunities to identify herbal options that could be source of dengue inhibitory activity. The developmental efforts of this collaboration will aim to explore how the extract prepared from *Cipa* Linn can inhibit the replication of virus in living cells against dengue infection.



Dr Navin Khanna at ICGEB has been the Principal Investigator (PI) for this project. He will continue in this role as part of the current collaboration. He is a Senior Scientist and Group Leader at ICGEB. He holds a Doctoral Degree in Biochemistry from All India Institute of Medical Sciences (AIIMS), New Delhi. For more than 20 years, he has been working on genetically engineered bio-molecules of medical use at ICGEB, New Delhi. Dr Khanna's current research focuses on finding solutions to the Dengue menace. His latest contribution is the rapid Dengue Day-1 kit for accurate and early detection of the dengue virus infection.

The high and growing burden of Dengue in India suggests a pressing need to improve its public health efforts. It is estimated the cost of medical care for those who get infected with dengue is equal to nearly \$550 million annually. Additional indirect economic costs, which are borne by patients and their families, lost wages, will be another US\$ 550 million. It is thus believed that dengue costs India over \$1.1 billion annually.

About International Centre for Genetic Engineering and Biotechnology

The ICGEB is an international, non-profit research organization. Established as a special project of UNIDO, it became fully autonomous in 1994 and now counts over 60 Member States. The International Centre for Genetic Engineering and Biotechnology provides a scientific and educational environment of the highest standard and conducts innovative research in life sciences for the benefit of developing countries. It strengthens the research capability of its Members through training and funding programmes and advisory services and represents a comprehensive approach to promoting biotechnology internationally. The Centre is dedicated to advanced research and training in molecular biology and biotechnology and holds out the prospect of advancing knowledge and applying the latest techniques in the fields of biomedicine, crop improvement, environmental protection/remediation, biopharmaceuticals and biopesticide production. With Components in Trieste, Italy, New Delhi, India and Cape Town, South Africa, the Centre forms an interactive network with Affiliated Centres in ICGEB Member States. ICGEB is part of the United Nations System.

About Sun Pharmaceutical Industries Ltd: (CIN - L24230GJ1993PLC019050)

Sun Pharma is world's fifth largest specialty generic pharmaceutical company and India's top pharmaceutical company. A vertically integrated business, economies of scale and an extremely skilled team enable us to deliver quality products in a timely manner at affordable prices. It provides high-quality, affordable medicines trusted by customers and patients in over 150 countries across the world. Sun Pharma's global presence is supported by 49 manufacturing facilities spread across 6 continents, R&D centres across the globe and a multi-cultural workforce comprising over 50 nationalities. The consolidated revenues for 12 months ending March 2015 are approximately US\$ 4.5 billion, of which US contributes US\$ 2.2 billion. In India, the company enjoys leadership across 12 different classes of doctors with 30 brands featuring amongst top 300 pharmaceutical brands in India. Its footprint across emerging



markets covers over 100 markets and 6 markets in Western Europe. Its Global Consumer Healthcare business is ranked amongst Top 10 across 4 global markets. Its API business footprint is strengthened through 14 world class API manufacturing facilities across the globe. Sun Pharma fosters excellence through innovation supported by strong R&D capabilities comprising about 2,000 scientists and R&D investments of over 7% of annual revenues.

For more details please visit www.sunpharma.com

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FOR FURTHER DETAILS PLEASE CONTACT

SUN PHARMA CORPORATE COMMUNICATIONS

Frederick Castro | +91 9920665176 | frederick.castro@sunpharma.com

Gaurav Chugh | +91 9810471414 | gaurav.chugh@sunpharma.com

INTERNATIONAL CENTRE FOR GENETIC ENGINEERING AND BIOTECHNOLOGY

Dr Nidhi Datta | +91 9311073535 | ndatta@icgeb.res.in

SUN PHARMA INVESTOR RELATIONS CONTACT

Nimish Desai | +91 9820330182 | nimish.desai@sunpharma.com