Collaboration 4HF Biotec – Bionavigen



4HF Biotec today announces that it has entered into a collaboration with Bionavigen in the field of target and drug discovery.

Freiburg, 18th July 2019

4HF Biotec GmbH, a privately held Freiburg based biotechnology company is applying its proprietary bioinformatic platform to the discovery of novel anticancer therapies and associated biomarkers. Today they announced a collaboration with Bionavigen for investigation and development of novel targets for improving drug delivery.

Bionavigen, a virtual biopharmaceutical company specializing in all aspects of biologics, cell and gene therapy and small molecule drug development

- Therapeutic area expertise in oncology, metabolic syndrome, respiratory and autoimmune diseases, neurosciences, infectious diseases etc.
- Scientific and regulatory consultancy for discovery, preclinical and translational sciences, including developing target product profile, safety, toxicology, DMPK, Clinical Pharmacology, biomarkers and diagnostics development
- Develop highly customized drug development strategy for all biologics including antibodies, ADCs, bispecifics, fusion proteins, peptides, cell and gene therapy
- Expertise in smart due diligences, biologics-small molecules business development
- Drug hunting and advice on the repurposing of already approved or terminated drugs and biologics in diseases with high unmet medical needs

Within the framework of the collaboration, 4HF Biotec will apply its bioinformatics-based data mining expertises to the identification and the characterization of novel targets. Bionavigen will use its support and experience in the field of pharmaceutical drug development to identify potential drug candidates.

Prof. Heinz-Herbert Fiebig, CEO and founder of 4 HF Biotec commented: "We are very pleased to collaborate with Dr. Rakesh Dixit in the field of target and antibody selection being the basis for generating selective antibody-drug conjugates. This partnership with respective experience in drug

discovery, molecular profiling, data mining and bioinformatics represents an important step in identifying and developing novel anticancer drugs".

Dr. Rakesh Dixit, CEO of Bionavigen said: "It is a great honor to work with Prof. Fiebig and 4HF Biotec. 4HF's unique capabilities in molecular profiling, data mining, ADC target selection and bioinformatics is highly synergistic to scientific capabilities of Bionavigen in advancing novel anticancer biologics and small molecule drugs development. The combined capabilities of 4HF Biotec and Bionavigen will be a great asset to oncology drugs developers with a specialization in ADCs, immuno-oncology and immunotherapy combinations product development".

Prof. Dr. Heinz-Herbert Fiebig, MD, PhD



Prof. Fiebig is the founder and Chief Executive Officer of 4HF Biotec. He was appointed Prof. of Medical Oncology and Hematology in 1990 at the Medical Faculty of the University of Freiburg. He conducted numerous Phase I and II clinical studies within the CESAR Clinical Trials Study Groups. His main areas of research and expertise are the discovery and preclinical evaluation of novel anticancer agents. He founded Oncotest GmbH in 1992, a preclinical CRO well known for its unique collection of patient-derived tumor models which

considerably improved the way to realize preclinical evaluation of novel anticancer agents. With his team he investigated numerous targeted and cytotoxic anticancer drugs for pharmaceutical and biotech companies as well as in academic collaborations. Oncotest GmbH was acquired by Charles River Laboratories in November 2015 when Prof. Fiebig decided to use his experience in anticancer drug discovery to start a new venture: 4HF Biotec GmbH. Prof. Fiebig is the author of more than 350 scientific publications. He was awarded the Czerny price of the German Society for Hematology and Oncology and the price of the German Ministry of Health for reducing animal experiments in cancer research.

Rakesh Dixit, PhD, DABT, President, Founder & CEO, Bionavigen



Dr. Dixit is currently the President, Founder and CEO of Bionavigen. He conducted extensive graduate and post-graduate training in Toxicology—Biochemistry with both Indian and US Institutions (Case Western Reserve University, Medical College of Ohio, University of Nebraska) and is board certified in Toxicology from the American Board of Toxicology, Inc. since 1992. Between 1992-2005, Rakesh worked in key positions at Merck and Co., Inc in West Point PA, USA and for one year at Johnson & Johnson, San Diego, CA. In August 2006, Rakesh joined Medimmune, Inc. (an AstraZeneca Biologics company) as Senior Director (R &D) & Global Head of Biologics Safety Assessment, Experimental Pathology, and Laboratory Animal Medicine. In this

position as a Vice President of R &D since 2010, Rakesh was responsible for guiding research and development of biological products; including nonclinical toxicology/safety, discovery and translational support for all AstraZeneca-MedImmune biologics products, including monoclonal antibodies and vaccines. Rakesh was a key player in the development and approval of 4 small molecule drugs when working at Merck and Co., Inc (USA) and 4 monoclonal antibodies (e.g., anti-PD-L1 antibody Durvalumab; Benralizumab (anti-IL-5R afucosylated antibody for severe asthma), recombinant CD22-PEA immunotoxin (Moxetumomab) and flu vaccines while working in key roles at MedImmune-AstraZeneca. Rakesh has published more than 80 papers in renowned international journals and has given over 130 invited lectures/presentations/workshops in national and international meetings.

Rakesh is one of the most invited speakers in the biotechnology industry with great expertise in biologics, including immune-oncology drugs, bispecifics, combination cancer drugs and antibody drug conjugates. Rakesh's areas of expertise are in all critical aspects pharmaceuticals and biologics drug discovery and development, safety assessment and translational sciences of small molecule drugs, biologics, vaccines and in exploring mechanisms of toxicity and biologics pharmacological activity. Rakesh has helped to bring several blockbuster pharmaceuticals to the market while working at Merck and AstraZeneca. Rakesh is a recognized expert in translational sciences, safety and pharmacology biomarkers and their applications. Rakesh is the Editor-in-chief of Toxicology Mechanisms and Methods and Associate Editor for Toxicology Applied Pharmacology, and Journal of Toxicology and Environmental Health. Rakesh was selected by his pharmaceutical peers as the 100 Most Inspiring People in the Pharmaceutical Industry by PharmaVOICE in 2015. Rakesh also serves as an expert reviewer and in appointed committee for many programs managed by the prestigious U.S. National Academy of Sciences and US National Institutes of Health, including National Cancer Institute