

Synthesis of agonist molecule by CSIR-IICT for COVAXIN

New Delhi, Mar 01 (India Science Wire): Council of Scientific & Industrial Research (CSIR)'s constituent laboratories have been working relentlessly in partnership with industry to launch repurposed drugs through process development and conducting clinical trials. CSIR labs have also extensively contributed towards the launching of diagnostic kits including Feluda and Dry Swab Direct RT-PCR method for the screening of SARS-CoV-2.

The indigenous vaccine for COVID-19, COVAXIN, developed by Hyderabad based Bharat Biotech, is a highly purified, whole virion, inactivated SARS-CoV2. The vaccine is formulated with Algel-IMDG, which contains chemisorbed TLR7/8 agonist onto aluminium hydroxide gel to generate the requisite type of immune responses. Owing to the significant role played by TLR7/8 agonist molecule in the performance of a vaccine, CSIR constituent lab, Indian Institute of Chemical Technology (IICT) based in Hyderabad, was approached by BBIL to develop the synthetic route for the agonist molecule with indigenous chemicals at an affordable price and with the highest purity. This agonist molecule has aided Bharat Biotech to scale up the production of the adjuvant.

The project was spearheaded by Dr. Chandrasekhar, Director, and Dr. Raji Reddy, Senior Scientist from IICT and has been completed in a record time of 4 months. Also, CSIR-IICT team lead by Dr Mohana Krishna Mudiam, Senior Principal Scientist and Professor Academy of Scientific and Innovative Research (AcCSIR) played a key role in the development of an analytical method for testing TLR7/8 agonist molecule and its method validation procedures through National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited lab.

Acknowledging the work undertaken by CSIR-IICT towards the development of the novel agonist, Dr. Krishna Ella, Chairman and Managing Director of Bharat Biotech said, "The process technology developed by CSIR-IICT for the agonist molecule is playing an important role in the production of adjuvant for COVAXIN." Dr Shekhar Mande, DG, CSIR and Secretary, DSIR complimented the CSIR-IICT team for rising to the occasion in making the process affordable and enabling the development of agonist molecules in record time and mentioned that this is yet another instance of CSIRs commitment towards 'Aatmanirbhar Bharat'.

ISW/USM/ENG/01/03/2021

Keywords: COVID-19, Pandemic, Healthcare, CSIR, Repurposed Drugs, Clinical Trials, Diagnostic kits, Feluda, Dry Swab, Direct RT-PCR, SARS-CoV-2