**Role  of CSIR-IICT in the Synthesis of Agonist molecule for use in COVAXIN developed by Bharat Biotech International Ltd.**

The unforeseen COVID-19 pandemic has brought along several challenges to the healthcare sector and many CSIR 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.

In our country, Bharat Biotech International Ltd. (BBIL) has emerged as the frontrunner in the development of indigenous vaccine for COVID-19, COVAXIN™.  The vaccine developed by BBIL 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 highest purity. This agonist molecule has aided BBIL 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 in4 months, a record time in itself.  Also, CSIR-IICT team lead by Dr Mohana Krishna Mudiam, Senior Principal Scientist and Professor (AcCSIR) played a key role in the development of analytical method for testing TLR7/8 agonist molecule and its method validation procedures through 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 development of agonist molecule in record time and mentioned that this is yet another instance of CSIRs commitment towards ‘Aatmanirbhar Bharat”.

##  Source

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