CSIR IN MEDIA

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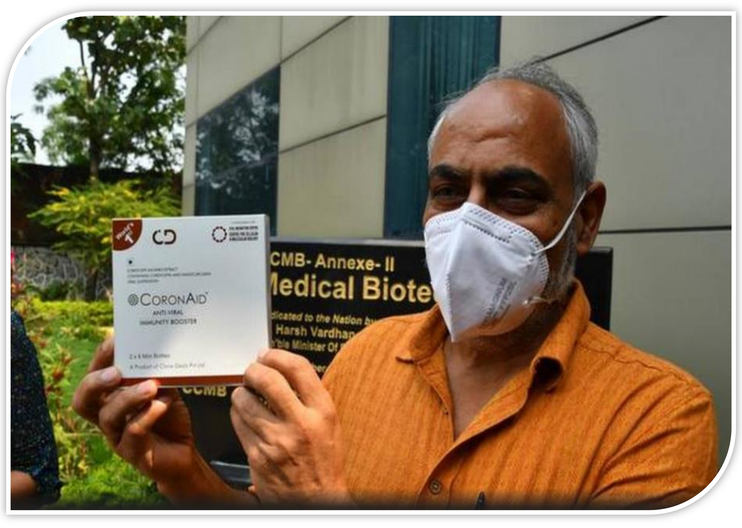
NEWS BULLETIN
21 TO 25 OCTOBER 2020



Feluda: ICMR issues guidelines for use of paper strip test

CSIR–IGIB

23rd October, 2020

The test has been approved by the Drugs Controller General of India (DCGI) for use in the country.

The Indian Council of Medical Research (ICMR) on Thursday issued an advisory for the use of indigenously developed Feluda paper strip test, which is based on CRISPR-Cas9 technology for diagnosis of SARS-CoV-2, by the laboratories.

Gene-editing tech

The paper-strip uses cutting-edge CRISPR gene-editing technology to identify and target the genetic material of SARS-CoV-2, the virus that causes COVID-19 in less than an hour.

No RT-PCR required

As claimed by the manufacturer, no further RT-PCR based confirmation is required for samples that are confirmed as positive or negative by the CRISPR SARS-CoV-2 test, the advisory stated.

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The test has been developed by Council of Scientific and Industrial Research's (CSIRs) Institute of Genomics and Integrative Biology (IGIB), Delhi and has been validated by the National Centre for Biological Sciences and Tata Institute of Fundamental Research. The test has been approved by the Drugs Controller General of India (DCGI) for use in the country.

How it works

"The test works by identifying SARS-CoV-2 virus strain and uses a Thermal Cycler instead of a qPCR machine for conducting the test. As claimed by the manufacturer, no further RT-PCR based confirmation is required for samples that are confirmed as positives or negatives by the CRISPR SARS-CoV-2 test, " the ICMR said in its advisory.
Existing government or private laboratories

already approved by the ICMR for SARS-CoV-2 RT-PCR based testing may use this new CRISPR test if the laboratory desires to do so.

No approval needed

No further approval is required from ICMR for existing laboratories.

New laboratories intending to initiate molecular testing of SARS-CoV-2 testing by any method will be required to seek approval as per the standard process laid down by the ICMR and NABL before initiating any kind of molecular testing, the advisory said.

Any prescription for RT-PCR, CRISPR, TRUENAT, CBNAAT may be considered equivalent.

Real time data feed

All testing data should be essentially entered into the ICMR COVID-19 web portal on a real time basis.

Accurate results

Union Health Minister Harsh Vardhan had recently said that based on tests in over 2,000 patients during the trials at the Institute of Genomics and Integrative Biology (IGIB) and testing in private labs, the tests showed 96 per cent sensitivity and 98 per cent specificity.

This compares favourably to ICMR's current acceptation criteria of RT-PCR kit of at least 95 per cent sensitivity and at least 99 per cent specificity, he had stated.

Published in:
Livemint

CSIR –NGRI

23rd October, 2020

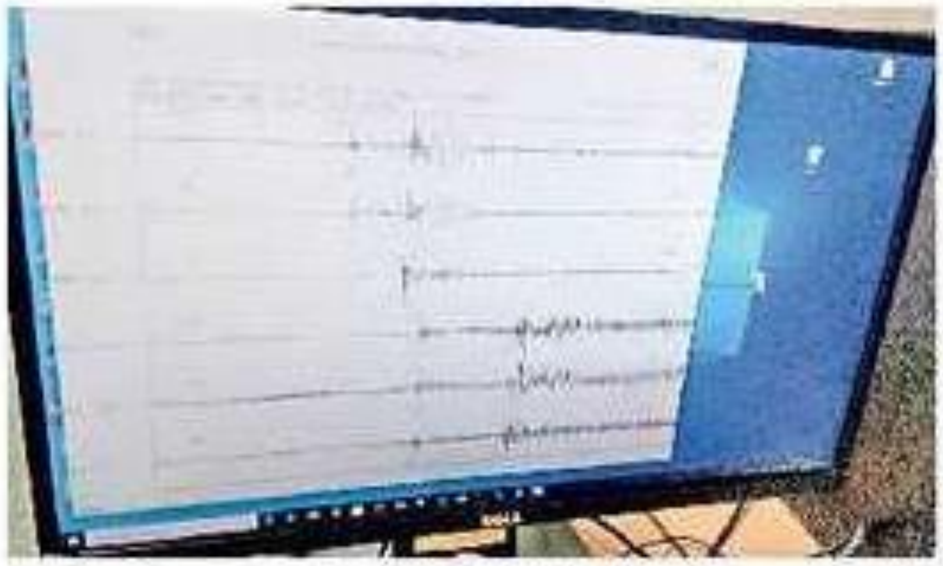
కంపిస్తున్నాయ్.. వణికిస్తున్నాయ్

● నాడు వనస్థలిపురం..ఇప్పుడు బీఎన్‌రెడ్డినగర్ ● పదేళ్ల తర్వాత ప్రకంపనలు

ఈనాడు, హైదరాబాద్: నగరంలో వరుసగా వస్తున్న స్వల్ప భూప్రకంపనలు వణికిస్తున్నాయి. ఈనెల 2న బోరబండలో మొదలై గచ్చిబౌలి, రాజేంద్రనగర్, టోలిచౌకి, బీఎన్‌రెడ్డి నగర్ వరకు విస్తరించాయి. గురువారం ఉదయం 5.38 గంటలకు బీఎన్ రెడ్డినగర్‌లో 1.1 తీవ్రతతో భూప్రకంపనలు నమోదయ్యాయని జాతీయ భూభౌతిక పరిశోధన సంస్థ(ఎన్‌జీఆర్‌ఐ) ముఖ్య శాస్త్రవేత్త డాక్టర్ శ్రీనగేష్ తెలిపారు. బోరబండ, చౌటుప్పల్‌లో ఏర్పాటు చేసిన సిస్మోగ్రాఫ్ పరికరాల్లో ఇవి రికార్డయ్యాయన్నారు. అధిక వర్షాలతో భూ పొరల్లో జరుగుతున్న సర్దుబాటుతో ఏర్పడుతున్న ప్రకంపనలు మాత్రమే

శ్రీనగేశ్

నని, ఆందోళన చెందాల్సిన అవసరంలేదని సూచించారు. గతంలో 2010 అక్టోబరు 24న వనస్థలిపురంలో 0.9 తీవ్రతతో ఒకసారి, అదే ఏడాది నవంబరు 1న సైతం 0.9 తీవ్రతతో మరోసారి కంపించినట్లు చెప్పారు. ఈనెల 14 నుంచి గచ్చిబౌలిలో ప్రకంపనలు నమోదు అయ్యాయన్నారు.



సిస్మోగ్రాఫ్ నివేదిక

అక్టోబరు, 2020	ప్రాంతం	తీవ్రత
2న తెల్లవారుజామున	బోరబండ	1.5
14న	గచ్చిబౌలి	2
17న	చింతల్‌మెట్ (రాజేంద్రనగర్)	1.1
21న	టోలిచౌకి	–
22న	బీఎన్‌రెడ్డినగర్	1.1

Published in:
Eenadu

Coronavirus | CSIR-CCMB working on three varied potential COVID-19 vaccine platforms

CSIR–CCMB

22nd October, 2020

Director of Centre for Cellular and Molecular Biology (CCMB) Rakesh K. Mishra launch of CoronAid at Atal Incubation Centre-Centre for Cellular and Molecular Biology (AIC-CCMB) in Hyderabad on Thursday. | Photo Credit: Nagara Gopal

At the same time, the CCMB Director cautioned that an 'effective' vaccine could be many months or years away.

CSIR-Centre for Cellular and Molecular Biology (CCMB) Director Rakesh Mishra on Thursday disclosed the institute has been working on three varied platforms in association with other CSIR labs in Chandigarh and Kolkata on potential vaccines to deal with **COVID-19 virus**. "These platforms are slightly different from the vaccines currently under testing. They are based on 'pseudo virus' and 'pre-processed protiens'. We are now testing them on mice, if they are responsive, we will give the technology to Aurobindo Pharma for making of vaccines," he told the media during the launch of 'CoronaAID' food supplement. At the same time, he cautioned that an 'effective' vaccine could be many months or years away. "It may or may not come. We should be prepared to fight this pandemic without a vaccine. Even if we are lucky to get a vaccine out by the end of the year or later, it could take many months to vaccinate the 1.30 billion people across the country because of the logistics required in maintaining cold storage chains and likely requirement of more than one dose," he explained. Yet, any vaccine's efficacy could only be determined over a course of time of several months or a couple of years because no one can predict how effective it could be to people of different age groups. "It is only after six months or a year we can claim how the vaccine has functioned. But then never before in history so much effort and money have gone into combating a single virus so we keep the fingers crossed," said Dr. Mishra. Since it has been now established that 20-30% country's population have antibodies there is a possibility of 'herd immunity' happening in next six months or one year when the infection rate may come down but this cannot be "rushed", he asserted. In the meantime, "we cannot afford to crowd hospitals even though capacities have been enhanced since

March-April. The focus should continue to be on testing and isolation," said Dr. Mishra. The CCMB Director reiterated the 'Social Vaccine' doctrine. "We have to learn to live without a magic medicine or vaccine for a while by wearing a face mask, maintaining social distancing and practising hand hygiene - wash hands every time especially when you want to put something in the mouth," he maintained.

Published in:
The Hindu

CSIR-CDRI Scientist Dr Saman Habib elected as fellow of Indian National Science Academy, New Delhi

CSIR–CDRI

22nd October, 2020

Dr. Saman Habib, Chief Scientist and Professor (AcSIR) in Molecular Biology Division, CSIR-CDRI, Lucknow brought the laurels to the Institute again through her outstanding work for understanding the malaria parasite. She is elected as fellow of Indian National Science Academy, New Delhi. Her research group's interest in the malaria parasite is driven by the desire to understand (a) the molecular workings and functions of the relict plastid (apicoplast) of Plasmodium, (b) mechanisms of protein translation employed by Plasmodium organelles and (c) human genetic factors and susceptibility to severe P. falciparum malaria in endemic and non-endemic regions of India. Other important honours and awards in her credit: Fellow of Indian Academy of Sciences, Bangalore (2016) Fellow of The National Academy of Sciences India, Allahabad (2015) National Women Bio-scientist Award, Department of Biotechnology, Govt. of India (2012) Prof. BK Bachhawat Memorial Lecture Award, National Academy of Sciences, India (2008) CSIR Young Scientist Award, CSIR (2001) The Indian National Science Academy The Indian National Science Academy was established in January 1935 with the object of promoting science in India and harnessing scientific knowledge for the cause of humanity and national welfare. Promotion of scientific knowledge in India including its practical application to problems of national welfare. The major objectives of Indian National Science Academy are: Coordination among Scientific Academies, Societies, Institutions, Government Scientific Departments and Services. To act as a body of scientists of eminence for the promotion and safeguarding of the interests of scientists in India and to present internationally the scientific work done in the country. To act through properly constituted National Committees, in which other learned academies

and societies may be associated, for undertaking scientific work of national and international importance which the Academy may be called upon to perform by the public and by the Government.

Published in:
India Education Diary

Union Minister Dr. Harsh Vardhan launches eco-friendly , efficient and DME fired “Aditi Urja Sanch” Unit at CSIR-NCL, Pune

CSIR–NCL

22nd October, 2020

The Union Minister of Science and Technology and Earth Sciences, Dr. Harsh Vardhan today inaugurated the DME fired “Aditi Urja Sanch” unit along with the DME-LPG blended fuel cylinders and handed them over for common public and CSIR-NCL (National Chemical Laboratory) canteen use on a trial basis at CSIR-NCL premises virtually through video-conferencing. Dr. Harsh Vardhan, in his address said, “The launch of this burner will also provide a significant boost to the ‘Make in India’ campaign as all the manufacturers of cylinders, gas stoves, regulators, and gas hose are domestic. This kind of activity may bridge the gap between demand and supply, and it can ensure energy security for the nation.”

Dimethyl ether (DME) is an ultra-clean fuel. CSIR-NCL has developed nation’s first kind of DME pilot plant with 20-24Kg/day capacity. The conventional LPG burner is not suitable for DME combustion as DME density is different than LPG. To address this issue, CSIR- NCL’s “ADITI URJA SANCH” has come up with a helpful, innovative setup. The new Burner is fully designed and fabricated by NCL for DME, DME -LPG blended mixtures and LPG combustion.

Salient features of newly designed Burner are:

- The new design is efficient for both DME and the blend of DME and LPG.
- Novel design and flexible air ingress.
- The new nozzle design allows optimum oxygen ingress for combustion
- The angles at which nozzles are placed maximize the heat transfer area across the utensils.
- Optimum flame velocity can be obtained.
- The length of the flame (high, low, and medium) can be adjusted by altering the oxygen ingress.
- The experiment shows that it increases the heat transfer rate as well.

Its efficiency trials and comparison with conventional burners have been done. Trial runs have demonstrated an improvement by 10-15 %, compared to conventional burners using LPG alone. The research group led by Dr. T. Raja at Catalysis and Inorganic Chemistry Division, CSIR-NCL, Pune carried out research and found catalysts with higher yield, and stability for the ether formation and less tendency to produce carbon soot by-product. The DME project is moving on fast track mode from the laboratory to the market to ultimately reach people under the methanol economy and green sustainable fuel policy of the country. In the current phase, CSIR sponsored FTT/ FTC (Fast track Commercialization) project for the pilot plant demonstration has been sanctioned, and CSIR-NCL is in advanced discussion with various industry stakeholders. A clean cooking fuel combination of DME-LPG also safeguards the well-being of women and children. The DME process technology is economical, cost-effective, and scalable with in-situ product purification as well as a heat integration unit that produces pure DME. This technology developed by CSIR-NCL at present has the capacity of 20-24 kg/ day DME production. It is to be scaled up to 0.5 Ton per day through the CSIR-FTC project. The DME pilot plant was inaugurated last year by Dr. Harsh Vardhan at CSIR-NCL. The newly designed stove can burn with up to 30 % DME blended with LPG or 100% DME as fuel. The air to fuel ratio is different for DME blended fuel to achieve optimum combustion and thermal performance. A 20% DME blending with LPG, with fewer infrastructure changes, is expected to result in substantial savings annually. The DME from Methanol process developed by CSIR-NCL is producing 20-24 kg/ day. This economical, cost-effective process will be scaled up to 0.5 Ton per day through CSIR-FTC project. CSIR-NCL plans under “Aditi UrjaSanch” to launch in future industrial burners for low emission, DME/ DME blended fuel for automobiles and stationery power.

Dr.Shekhar C. Mande, DG-CSIR & Secretary, DSIR was present on the occasion. Prof.Ashwini Kumar Nangia, Director, CSIR-NCL, Pune; Dr. T. Raja, Principal Scientist, CSIR- NCL and others joined the event virtually.

Published in:

India Education Diary

CSIR –NCL

22nd October, 2020

NCL develops gas stove running on cleaner fuel

TIMES NEWS NETWORK

Pune: Union minister for science and technology Harsh Vardhan on Wednesday unveiled a gas stove developed by scientists from CSIR-National Chemical Laboratory (NCL) that operates on dimethylether (DME) and DME blended with LPG.

DME being a cleaner fuel, scientists are working on models that will help the country move in the direction of energy security and replace diesel in the long run. DME burners along with fuel were given to a few domestic users residing on the NCL campus on a trial basis for the purpose of data collection. Officials said that the institute's canteen will also start using these burners on an experimental basis.

The components of the new burner are designed in such a way that fuel to air ratio, flame height and flame orientation can be adjusted as per the fuel applications to achieve maximum fuel efficiency.

Its future plan is to design and build the country's first DME-fuelled industrial boiler unit. Plans are also afoot to build the country's first DME-fuelled automotive engine in collaboration with the Automotive Research Association of India (ARAI). In his address, Harsh Vardhan said that the development has come at a crucial time when the world is experiencing the effects of climate change.

Published in:
The Times of India

Dr Harsh Vardhan Launches CuRED, CSIR Partnered Clinical Trials Website

CSIR 21st October, 2020

Union Health and Science and Technology Minister Dr Harsh Vardhan launched CuRED, a website that gives comprehensive info about the numerous COVID-19 clinical trials that the Council of Scientific & Industrial Research (CSIR) is engaged in partnership with industry, other government departments and ministries.

CSIR Ushered Repurposed Drugs (CuRED) provides information about the drugs, diagnostics and devices including the current stage of the trials, partnering institutions and their role in the trials and other details, as per a release by the Science & Technology Ministry. Dr Harsh Vardhan lauded CSIR's efforts in being at the forefront of the fight against COVID-19 and giving priority to clinical trials, generating data for their regulatory approval and helping launch drugs and diagnostics in the market.

CSIR is exploring multiple combination clinical trials of anti-virals with host-directed therapies for the potential treatment of COVID-19. It is also working with the AYUSH Ministry for conducting clinical trials of AYUSH drugs. It has also undertaken safety & efficacy trials of AYUSH prophylactics and therapeutics based on individual plant-based compounds and in combination.

In addition to these, CSIR has also been involved in clinical trials of diagnostics and devices. Dr Shekhar C Mande, Secretary, DSIR and DG-CSIR, Dr Ranjana Aggarwal, Dir, NISTADS and Dr. Geetha Vani Rayasam, Senior Principal Scientist amd Head, Science Communication and Dissemination Directorate CSIR HQ, were present on the occasion. CSIR Directors, Heads of Departments, and Scientists involved in Clinical Trials joined the event virtually. (ANI)

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Business World

CSIR

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