

## System and method for electrochemically sensing biomolecules in a solution

Scientist at DBT's National Institute of Animal Biotechnology (NIAB), Hyderabad has developed a diagnostic device for detection of viral and other antigens. The designed in-house electrochemical device can be called an embedded system that is a combination of elements, software package, and other mechanical/distinct components designed to perform a selected operation.

Each embedded system consists of a custom-made hardware designed around a central processing unit (CPU) and this hardware additionally contains memory chips onto which the software package is loaded. The building blocks of the embedded system include a central processing unit (CPU), pair of memory storages (read-only memory (ROM), and random access memory (RAM)), input devices, output devices, communication interfaces, and application-specific electronic equipment. Communication system acts as an associate in the nursing interface between CPU, and different parts of the embedded system. The socket was created and connected with electrode, and a rechargeable to the contact pads. The device will be a solution for rapid biomolecular interactions either to detect a disease or to understand a biological condition relevant to health and other situations. It can be used for detection of biomolecules of a physiological status of humans and animal diseases.

Currently, the diagnostic device was tested for various viral antigens and small molecules and could detect up to femtomolar sensitivity when tested in standard solution. A patent have been filed this work at NIAB, Hyderabad.

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