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ICMR disease focused technologies ready for commercialization

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The Department of Health Research (DHR), Government of India has a special programme aimed at development of indigenous affordable technologies for health care. Under the same, the technologies developed by Pune based ICMR's National Institute of Virology (NIV) include recombinant vaccine for Hepatitis E vaccine and combination of Hepatitis E & Hepatitis B vaccines using a novel approach, ELISA Test for Rotavirus and Recombinant protein- based assay for diagnosis of hepatitis E.

The salient features of the recombinant vaccine is that its liposome formulation of T1NE protein of an Indian strain of genotype 1 HEV
serves as an effective candidate vaccine for hepatitis E. The liposome formulation of T1NE protein of an Indian strain of genotype 1 HEV
along with the S protein of HBV serves as an effective combined candidate vaccine for hepatitis E and hepatitis B. The T1NE protein / corresponding DNA of an Indian strain of genotype 1 HEV has features such as ease of production in bacterial system, Easy purification,
Stability, Easy liposome encapsulation formulation, Easy scalability. Research is upto laboratory scale; successful clinical trial in rhesus monkeys has been completed.

ELISA Test for Rotavirus can be used for detection of rotavirus from the fecal samples of diarrhoea patients. The rapid ELISA test was developed at NIV, Pune. It is easy to perform, has high sensitivity and specificity and is cost effective as large number of fecal samples could be tested using indigenously developed reagents. This can essentially avoid unnecessary use of antibiotics in diarrhoea patients. This kit is also useful during surveillance studies to obtain data on disease burden. This technology has been validated. An Indian Patent application no. 581/BOM/1999 has been filed.

Recombinant protein- based assay for diagnosis of hepatitis E has the complete T1ORF2/ T4ORF2 proteins expressed in baculovirus system
and the truncated T1ORF2 protein (T1NE, 150 aa) serve as the detecting antigens in ELISA for diagnosis of Hepatitis E. These 3 recombinant proteins can be used for the development of diagnostic assays for hepatitis E. The T1NE protein of an

Indian strain of genotype 1 HEV can be easily produced in bacterial system. This protein has high yield, can be easily purified, stable and has easy scalability.