

Research Diary

Innovations - Q3

India 1st Electronic COVID-19 Test Kit - COVIHOME
Prof Shiv Govind Singh

KID: 20210307

IIT Hyderabad's Prof Shiv Govind Singh developed India's First Bio-electronic COVID-19 Rapid Electronic Test Kit, "Covi-Home". Validated by CCMB Hyderabad (ICMR partner institute), Covi-Home is ready for Technology Transfer.

Highlights:

- Validation Report: Specificity: 98.2% Sensitivity: 91.4% Efficiency: 94.2%.
- Works with Oral/ Nasopharyngeal Swabs, Testing Volume: < 10 µL.
- Oligo-based testing (Equivalent to RT-PCR testing).
- Smartphone-based Home-testing.
- Test results within 30 min.
- Low cost ~Rs. 300/Test.
- No RNA-extraction is required.
- No RT-PCR is required for load amplification and testing.

Read More: <https://tinyurl.com/dx9sypv9>

View Video Abstract:

<https://youtu.be/NVBCXfJdbOU>

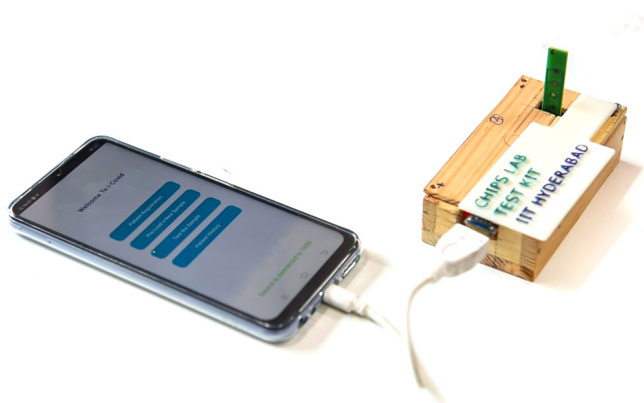


Fig. 9: COVIHOME

mPTX for enhanced sperm competence for IVF
Dr Rajkumara Eerappa

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IIT Hyderabad along with Kasturba Medical College, Manipal Researchers, designed a molecule 'mPTX' to enhance sperm competence for IVF. mPTX, can increase sperm motility, prolong in-vitro sperm survival and improve sperm fertilization potential compared to the widely used pharmacological agent, pentoxifylline, in IVF technology.

Highlights:

- mPTX enhances motility and longevity of sperm from patients with poor motility.
- Reduces embryotoxicity.
- mPTX treatment prevents premature acrosomal reaction in sperms.
- mPTX treated sperms have better DNA integrity.
- mPTX can be a better drug for enhancing sperm competence for IVF.

Read More: <https://tinyurl.com/sknbyrp7>

View Video Abstract:

https://youtu.be/grUr-9_X7cw

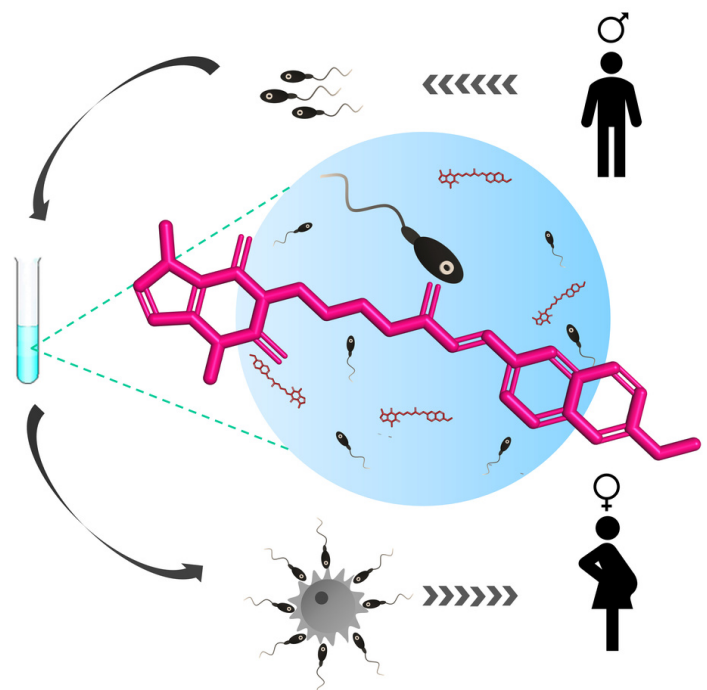


Fig. 10: Working Schematic of mPTX