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# Breakthrough: Israel Scientists Grow Functional Kidney Organoids in Labs with Longest Viability

**Poonam Sharma, Sujatha Suriyamoorthi**
MOHAN Foundation, India

In a major breakthrough in regenerative medicine and organ replacement research, scientists at Sheba Medical Centre, in collaboration with Tel Aviv University, have created functional human kidney organoids that have survived in the lab for 34 weeks–longest recorded period of viability so far.

The study, published in The EMBO Journal, shows a substantial improvement in creating kidney-like structures that can mature for a long time. The research group led by Dr. Benjamin Dekel successfully developed kidney organoids using kidney stem cells. These organoids included nephrons, tubules, and ducts that mimicked normal anatomy and remained viable for over eight months, enabling advanced studies on kidney development and diseases.

While transplantation of these organoids is not yet possible, Dr. Dekel noted that this project is the start of therapeutic bioengineering. The team's next step is to discover the biomolecules secreted by such organoids that might help stimulate the repair or growth of kidneys in patients with chronic kidney disease.

**Corresponding Author:** Dr. Sunil Shroff,
MOHAN Foundation, Chennai, Tamil Nadu, India
**Email:** shroff@mohanfoundation.org

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