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Korea pioneers new future in advanced biotechnology

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Top 10 Promising Biotechnologies of 2025 highlighting AI convergence



The Ministry of Science and ICT and the Korea Research Institute of Bioscience and Biotechnology have announced the "Top 10 Promising Biotechnologies of 2025", presenting a vision for the future of life sciences.

The Promising Biotechnologies are expected to be realised technologically or industrially within the next 5 to 10 years and are anticipated to have significant technological and industrial ripple effects beyond the field of advanced biotechnology. This year's Top 10 Promising Biotechnologies include the human immunome, Multi-cancer early detection, RNA structurome, AI-designed gene editors, Anti-ageing antibodies, Molecular glue, motile living biobots, Digital artificial organs, Healthcare digital twin and bio foundation models.

Additionally, the government plans to analyse recent bio R&D initiatives to identify gaps related to promising technologies and develop new national projects to nurture these fields.

With the anticipated launch of the National Bio Committee—a collaborative effort between the public and private sectors to advance bio research— the government aims to strengthen end-to-end support for biotechnologies, from systematic development to commercialisation.