

Korea's LG AI Research, D&D Pharmatech partner to accelerate oral peptide drug discovery

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The collaboration combines AI-driven peptide design with oral formulation technology



South Korea-based LG AI Research has signed a master agreement with D&D Pharmatech for a joint next-generation oral peptide drug development project.

The collaboration brings together LG AI Research's AI-driven drug discovery capabilities and D&D Pharmatech's peptide development expertise. The two companies aim to develop oral tablet-form treatments for incurable diseases and precision medicine applications, with a focus on improving safety, absorption and development efficiency.

This is relevant because peptide therapeutics have strong biological potential but continue to face delivery challenges. Oral peptide delivery could change the commercial and clinical profile of this drug class. If peptide drugs can be administered as tablets while maintaining adequate bioavailability, they may become more convenient for patients, easier to scale and more competitive in chronic disease settings.

Under the collaboration, LG AI Research will develop models to discover and design peptide drug candidates. Its models will analyse the structures of disease-causing substances and design peptide sequences at scale, aiming to overcome limitations of conventional discovery methods.

D&D Pharmatech will handle structural design, synthesis and evaluation of the AI-generated candidates. For viable drug candidates, the company will apply its proprietary formulation technologies to support oral administration, while also managing preclinical and clinical development and global regulatory approval processes.

The two companies also plan to establish a continuous feedback loop. LG AI Research will generate AI-designed candidates, D&D Pharmatech will validate them experimentally, and the results will be fed back into the system to improve model performance.

Adoption and commercial success will depend on whether the collaboration can produce candidates that are not only computationally promising, but also manufacturable, orally bioavailable and clinically effective. Regulatory pathways for new oral peptide therapies will also require strong evidence that formulation improvements translate into reliable therapeutic exposure.