

Korean firms repurpose FDA-approved drug for rheumatoid arthritis treatment

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Standigm Inc, an artificial intelligence (AI)-based drug discovery company and SK Chemicals Co, Ltd, a life science and green chemicals company, both based in South Korea, have announced that they have successfully found a new rheumatoid arthritis indication for an FDA-approved drug and have filed a patent. This is the first successful result of their open innovation partnership, formed in July 2019.

The research collaboration is aimed at identifying novel lead compounds and repurposing existing drugs for rheumatoid arthritis and non-alcoholic steatohepatitis, leveraging Standigm's AI-powered drug discovery platforms: Standigm BEST™, Standigm Insight™, and Standigm ASK™. SK Chemicals has shared their expertise in these diseases and validated the predicted targets and compounds through in vitro and in vivo studies.

The compound in the patent was discovered by Standigm Insight™, an AI-aided drug-repurposing platform. In a mouse model with collagen-induced arthritis, it showed comparable or better improvements in its rheumatoid arthritis disease activity score than reference drugs such as methotrexate and hydroxychloroquine.

Further research on and development of the compound is ongoing with the objective of completing preclinical studies. As the compound was already approved by the FDA for its original indication, the companies are expecting significant savings in cost and time associated with its pre- or clinical development for the new indication.

"This patent is just the beginning of many results expected from our extended collaboration. We look forward to announcing AI-aided new drug candidates as well as more AI-driven repurposed drug candidates." Jinhan Kim, Co-Founder and CEO, Standigm said, "Partnering with SK Group has been incredibly productive. We are also accelerating collaboration with SK C&C on our jointly developed iCLUE&ASK™ platform."

Jeonghoon Kim, Director of the R&D Center, SK Chemicals, said, "The recent findings result from our successful open innovation partnership, which combines Standigm's advanced AI platform technology and SK Chemicals' deep expertise in drug discovery and development. We will continue to expand our collaboration to address unmet needs in treating intractable diseases."