

March 2, 2021
PeptiDream Inc.
Nissan Chemical Corporation

PeptiDream and Nissan Chemical's Joint Research Results on Innovative Peptide Manufacturing Technology Acclaimed by Synfact

Tokyo and Kawasaki, Japan, March 2, 2021 – PeptiDream Inc. (Representative Director and President: Patrick C. Reid; Head Office: Kawasaki City, Kanagawa Prefecture; hereafter "PeptiDream") and Nissan Chemical Corporation (President: KINOSHITA Kojiro; Head Office: Chuo-ku, Tokyo; hereafter "Nissan Chemical") announced today that a part of achievement of their joint research on peptide manufacturing technologies started in 2016, contributed to Synfact, a world-renowned journal in the field of synthetic organic chemistry, was selected for the "Synfact of the month" as a novel and intriguing technology of importance in peptide chemistry (Synfacts 2021, 17(01), 103). PeptiDream and Nissan Chemical believe that the achievement obtained through the joint research will form a core part of peptide manufacturing technology platform as it enables, for the first time in the industry, to reduce both costs and environmental burdens resulting from peptide synthesis processes for a vast range of peptide products.

By fully leveraging the platform, PeptiDream and Nissan Chemical will continue to contribute to the further acceleration of non-clinical and clinical studies for next-generation pharmaceuticals deriving from peptides such as macrocyclic/constrained peptides, and to ensure a sustainable supply of API after drug launches.

About Peptide Synthesis Using Unprotected Amino Acids

WO 2020/189621

Organic Letters 2020, 22(20), 8039-8043.

Nissan chemical's product
Synthesized from FINEOXCOL®
related compounds

Elected to SYNFACT of the month
2021, 17(01), 103



N-alkyl amino acids such as N-methyl amino acids are regarded as an important building block in the field of peptide therapeutics and they constitute one of key elements which characterize

macrocyclic/constrained peptides considered as a next-generation drug modality. With traditional organic synthesis technologies, manufacturing N-alkyl amino acid containing peptide requires a process which consists of two steps: “protection” and “deprotection” of a relevant amino acid. This process has been posing a significant challenge in peptide API manufacturing as synthesis of N-alkyl amino acid containing peptide remains complex and difficult to precisely control the position where N-alkyl amino acid is introduced.

Accordingly, in 2016, PeptiDream and Nissan Chemical started a joint research with an aim to develop a new synthetic method to chemically mimic the said process where amino acids are selectively coupled to synthesize peptide intravitally, which has been successfully achieved by developing an unprecedented method to couple unprotected N-alkyl amino acids directly. Both companies believe that this innovation will solve the issue of environmental burdens which the traditional manufacturing methods have borne to date and will also enable to realize the reduced synthesis processes of peptide manufacturing and for drastically improved peptide manufacturing efficiency.

About PeptiDream Inc.

PeptiDream Inc. (TSE: 4587) is a public biopharmaceutical company founded in 2006 employing our proprietary Peptide Discovery Platform System (PDPS), a state-of-the-art highly versatile discovery platform which enables the production of highly diverse (trillions) non-standard peptide libraries with high efficiency, for the identification of highly potent and selective hit candidates, which then can be developed into peptide-based or small molecule-based therapeutics. PeptiDream aspires to be a world leader in drug discovery and development to address unmet medical needs and improve the quality of life of patients worldwide. For further information, please visit <https://www.peptidream.com>.

About Nissan Chemical Corporation

Nissan Chemical Corporation is now moving forward to develop new products and businesses through utilization of our core technologies as the chemical company with our corporate vision of becoming "a corporate group that contributes to human survival and development". Nissan Chemical entered into the pharmaceutical business in 1982, and launched an external preparation of ketoprofen, a Calcium antagonist and a statin agent with a strong LDL cholesterol reduction. We keep trying research and development for innovative medicines by using precise organic synthesis technology, the strategic chemical library and the state-of-the-art evaluation technology for the smile and precious life around the world. For more details, please visit <https://www.nissanchem.co.jp/>

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