

DATE: 10th May 2017

**SUMMARY of
2016 RESEARCH RESULTS REPORT
For International Collaborative Research with IPR, Osaka University**

Research Title		Novel Strategy for Generation of Peptide Thioester via N-S Acyl Transfer for Synthesis of Glycoproteins
Applicant	Name	Dr. Rohit Kumar Sharma
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	Present Title	Assistant Professor
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<p>Summary</p> <p>The synthesis of glycoprotein interleukin-5 (IL-5) has been tried using the ligation strategy by generation of peptide thioester via N-S acyl transfer reaction. The entire peptide sequence of Interleukin-5 (IL-5) was divided into three segments and each segment was synthesized using solid phase peptide synthesis (SPPS) protocols. The point in this synthesis is how to prepare N-terminal peptide thioester, which has proline at its C-terminus. The prolyl thioester is known to have lower reactivity compared to that of another amino acid residues. Thus, model peptides having various aryl thioesters were prepared and their reactivity is investigated. Using the optimized condition, the thioesterification of the N-terminal segment of IL-5 will be performed. The middle as well as the C-terminal segment of IL-5 have been successfully synthesized. The coupling of all the three segments of IL-5 segment will be further carried out using chemical ligation strategies. Once the complete peptide synthesis is optimized, the two glycan chains present in the N-terminal segment will be conjugated and the complete IL-5 synthesis will be done which has not been reported till date.</p>		

*Deadline: May 19, 2017

*Please submit it to E-mail: tanpakuken-kyoten@office.osaka-u.ac.jp.

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