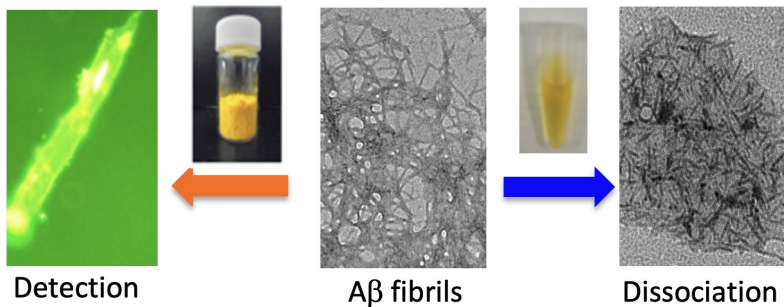


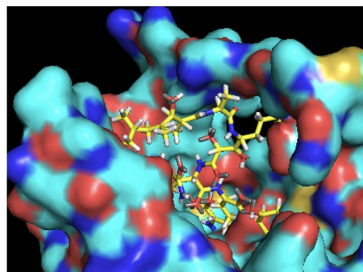
# Drug Discovery for Membrane Proteins, Proteases and Amyloid peptides

Professor Hiroyuki Konno

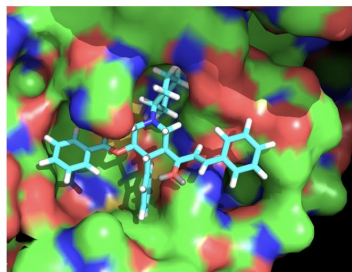
## Control of A $\beta$ aggregation for Alzheimer's disease



## Anti-HIV agent



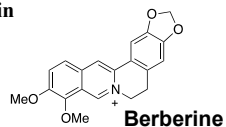
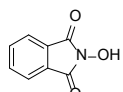
## SARS 3CL<sup>Pro</sup> Inhibitor



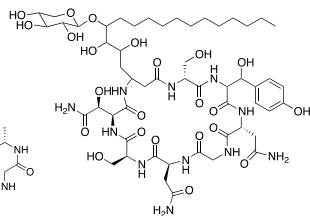
## Detection of amino groups on resin



NH<sub>2</sub>-peptide-resin



Ralstonin



Burkholdine

## Content:

Peptidyl natural products containing unusual amino acids are important source for drugs, pseudo-peptides and functional molecules. These unique structures are also attractive in the synthetic viewpoint. Our group have been studied on drug discovery for membrane proteins, cysteine protease and amyloid peptide.

A. Drug discovery against chemokine receptor CCR5 using fluorescent TAK779 for the analysis of interaction with protein inhibitors.

B. Structure activity relationship study of the amyloid  $\beta$  aggregation inhibitors using curcuminoids and berberine.

C. Synthesis and evaluation of non-peptidyl inhibitors against main 3CL protease for the corona virus.

D. Detection of amino groups and thiol functionalities. Chemical ligation of long sequence peptides. Investigation of anti-microbial peptides.

## Appealing point:

My research interests are chemical synthesis of peptides on solid support and stereoselective synthesis of bio-active organic molecules for drug discovery.

Yamagata University Graduate School of Science and Engineering

Research Interest : Medicinal Chemistry,  
Chemical Biology

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