

ケミカルバイオロジー研究所

Research Institute for Chemical Biology

第 52 回 ケミカルバイオロジー研究所セミナー
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A PEPTIDE-BASED APPROACH TO FIGHT SARS-COV-2: FROM VACCINES TO ANTIVIRALS

令和 5 年 11 月 13 日 (月) 13:30~14:30
A13 棟 323 号室 (講義室 B)

The devastating pandemic of severe acute respiratory syndrome known as COVID-19 is caused by the coronavirus SARS-CoV-2. A trimeric spike (S) protein expressed on the virus outer bilayer leaflet has been identified as a ligand that allows the virus to penetrate human host cells and cause infection. Its receptor-binding domain (RBD) interacts with the angiotensin-converting enzyme 2 (ACE2), the host-cell viral receptor, and therefore the interaction between these two proteins is the subject of intense research for the development of virus control means, both vaccines and antiviral drugs. In a first research line, we searched for smaller fragments of the S protein able to elicit virus-neutralizing antibodies, suitable for production by peptide synthesis technology. We also implemented a strategy based on synthetic peptides to develop new antiviral compounds mimicking the binding motif of ACE2 and potentially able to inhibit the ACE2/Spike protein interaction, thus preventing the cell entry.

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