

132nd IBB Seminar

The structure-based design of H5N1 avian influenza A neuraminidase inhibitors

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15:00~17:00

会場 : 東京医科歯科大学 生体材料工学研究所
第 2 会議室 (1 階)



Abstract: Since 2003, highly pathogenic H5N1 influenza virus has been the cause of large-scale death in poultry and the subsequent infection and death of over 140 humans. At present, there are only three licensed anti-Influenza drugs namely Relenza (zanamivir - ZMV), Tamiflu (oseltamivir - OTV) and amantadine/rimantadine. The latter targets the M2 ion channel whereas the other compounds target neuraminidase (NA) and were designed through structure-based enzyme inhibitor programs. Some structural knowledge of the Influenza neuraminidase is now known due to remarkable advances in crystallographic techniques. The structure of H5N1 NA is particularly attractive because it offers new opportunities for drug design. Besides the profound impact that structural biology has had on understanding the Influenza virus and the rational design of antivirals, computational methods are now a viable partner to experiment in designing NA inhibitors. In this lecture, we will discuss the development of current neuraminidase inhibitors, the emergence of resistance to them, and the recent research progress towards the development of new inhibitors.

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