

Sialomimetic Viral Entry Inhibitors - A route towards the first treatments for neglected human and emerging zoonotic viruses

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Zoonotic viruses can rapidly emerge from animals and transmit to humans as has been well documented for various avian/porcine influenza and bat corona viruses. It has now been observed repeatedly that these animal-to-human transmissions can result in a pandemic causing millions of deaths and a massive economic burden for humanity. All those pandemic viruses and numerous other classes of human viruses exploit animal and human sialic acid receptors for transmission and infection. Therefore, viral entry inhibitors interfering with this process are of broad interest. In this early discovery project, the development of novel sialomimetic therapeutics will be established. After initial validation using known viruses with known and distinct sialic acid binding specificity, the platform will then be applied onto viruses with reported but unexplored sialic acid binding, i.e. Parainfluenza, Zika and BK Polyoma Viruses, all of which currently lack drugs or vaccines. This pipeline will therefore yield sialomimetic entry inhibitors for the treatment of viral infections with clinical need, and importantly, the established workflow will serve as an important platform in the scope of Pandemic Preparedness.

Projektbeteiligte

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