Targeting chikungunya virus replication : insights into chikungunya virus replication and the antiviral activity of suramin in vitro

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Stellingen

Propositions accompanying the thesis

Targeting chikungunya virus replication

Insights into chikungunya virus replication and the antiviral activity of suramin *in vitro*

1. Besides genomic and subgenomic RNAs, alphavirus-infected cells also contain RNA II, which has been largely ignored in literature (this thesis; M.M. Wielgosz and H.V. Huang, J. Virol., 1997).
2. CHIKV is the most common alphavirus that infects humans (Jin J. *et al.*, Cell Host Microbe, 2018).
3. The antiparasitic drug suramin also has broad-spectrum antiviral activity (this thesis and citations within).
4. CHIKV vaccine strain 181/clone 25 could be employed in outbreak situations if suramin would be given to the 8% of recipients predicted to develop arthritis (based on results from halted clinical trials), as this vaccine virus is highly sensitive to the compound (this thesis; Gorchakov R. *et al.*, J. Virol., 2012).
5. Drug specificity is not only a function of concentration, as stated in pharmacology text books, but also a function of time: "the more a drug is studied, the more likely it is that additional targets or indications will be discovered" (A. Papapetropoulos and C. Szabo, Br. J. Pharmacol., 2018).
6. Class II fusion proteins are not unique for (arbo)viruses as they share a common ancestor with the eukaryotic HAP2 protein, which is involved in gamete fusion (J. Fedry et al., PLoS Biol., 2018).
7. Vector control is an important measure to curb the spread of arboviral diseases and decreasing mosquito tolerance to arbovirus infection could turn out to be a sustainable strategy (L. Lambrechts and M.C. Saleh, Cell Host and Microbe, 2019).
8. New scientific discoveries can be made only within the boundaries of our technical possibilities.
9. Statistical significance does not imply that the results have *practical* significance (Statistics done wrong, The woefully complete guide by Alex Reinhart).
10. If problems remain persistently insoluble then they should be suspected as questions asked the wrong way (inspired by The Book on the Tabu Against Knowing Who You Are, by Alan Watts).
11. The many advances in the fields of technology and medicine also came with a serious downside, as comedian George Carlin pointed out: "we've added years to life, and not life to years!"
12. We are not inhabitants of a country, but of a language; therefore, borders are actually imprecise and redundant (inspired by philosopher Emil Cioran).

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