



Dear fellow members of the Swedish Society for Virology (SSV),

- 1) This year's **Smögen Symposium on Virology**, held August 23-25, 2018, at Smögens Havsbad, is now fully booked with 130 participants. However, the registration website is still open, but late registration will be placed in line for openings due to cancellations. Updated information will be sent on Friday August 3 to those delegates having submitted their E-mail address.
- 2) The national courses in "**Clinical Virology**" and "**Vector Borne and Emerging Viral Zoonoses**" will take place in Smögen August 20-23, 2018 and August 22-23, 2018, respectively.
- 3) This years "**Annual SSV meeting**" will take place at Smögens Havsbad August 25 at 11:50. For agenda and attachments see http://www.swedishvirology.se/180825_ssv_annual_meeting.pdf
- 4) This month we highlight recent **Virology News** on "**Polysialic acid is a cellular receptor for human adenovirus 52**" and "**A Sialylated Voltage-Dependent Ca²⁺ Channel Binds Hemagglutinin and Mediates Influenza A Virus Entry into Mammalian Cells**", see our website http://www.swedishvirology.se/virology_news.html, or below. Anyone that has suggestions on publications that should be highlighted, and are of interest for Swedish virologist, please send this information to Tomas.Bergstrom@microbio.gu.se.
- 5) If you are interested to post information on meetings, courses, jobs or other relevant information about Virology at the website, do not hesitate to contact, Marianne.Jansson@med.lu.se, SSVs webmaster.

All the best summer greetings from SSV

Virology News

" Polysialic acid is a cellular receptor for human adenovirus 52"

In a recent issue of PNAS, Annasara Lenman and coworkers from Umeå University report that polysialic acid is a receptor for human adenovirus

(HAdV) 52. This virus, which together with HAdV 40 and 41 is associated with acute gastroenteritis (GE), has two different fibers, one long and one short. Previously, Lenman et al. demonstrated that the long fiber knob utilizes CAR (coxsackie and adenovirus receptor) for binding. In the present paper, they show by glycan arrays and cellular studies that the knob of the short fiber interacts electrostatically with polysialic acid on target cells. This novel finding increases understanding of the biological functions of polysialic acid, and of protein-carbohydrate interactions during adenoviral cell entry.

Polysialic acid is a cellular receptor for human adenovirus 52

Lenman A, Liaci AM, Liu Y, Frångsmyr L, Frank M, Blaum BS, Chai W, Podgorski II, Harrach B, Benkő M, Feizi T, Stehle T, Arnberg N. Proc Natl Acad Sci U S A. 2018 May 1;115(18):E4264-E4273.
<https://www.ncbi.nlm.nih.gov/pubmed/29674446>

"A Sialylated Voltage-Dependent Ca²⁺ Channel Binds Hemagglutinin and Mediates Influenza A Virus Entry into Mammalian Cells"

Influenza A virus (IAV) binds to and enter cells through hemagglutinin binding to sialic acid (SA)-containing cell surface molecules. Until now, such SA-carrying molecules have been largely unknown. It has been known that IAV entry and infection is associated with an altered, intracellular calcium concentration, which is regulated by calcium channel proteins. Voltage-dependent calcium channels (VDCCs) regulate calcium transport in a SA-dependent manner. Such observations allowed Fujioka et al to identify VDCC as cellular receptors for IAV. VDCC knockdown as well as calcium channel blockers inhibit IAV replication, and proper sialylation of VDCC is required for receptor function. This work adds knowledge about IAV life cycle and presents VDCCs as a novel targets for antiviral drugs.

A Sialylated Voltage-Dependent Ca²⁺ Channel Binds Hemagglutinin and Mediates Influenza A Virus Entry into Mammalian Cells

Fujioka Y, Nishide S, Ose T, Suzuki T, Kato I, Fukuhara H, Fujioka M, Horiuchi K, Satoh AO, Nepal P, Kashiwagi S, Wang J, Horiguchi M, Sato Y, Paudel S, Nanbo A, Miyazaki T, Hasegawa H, Maenaka K, Ohba Y. Cell Host Microbe. 2018 Jun 13;23(6):809-818.e5.
<https://www.ncbi.nlm.nih.gov/pubmed/29779930>