

ANA Futura breakfast mingle



Karolinska
Institutet



3 March 2026

Agenda

- **Welcome!**
- **Introduction: Chair of the ANA Futura steering committee 2026 –**
Anna Norrby-Teglund, MedH/CIM
- **How Tick-borne encephalitis virus enters brain cells –** *Sara Gredmark Russ, MedH/CIM*
- **Latest ANA Futura news –** *Lars Frelin, facility manager*
- **Questions**

Introduction: Chair of the ANA Futura steering committee 2026

- **Anna Norrby-Teglund – Head of Unit at the Center for Infectious Medicine (CIM) at the Department of Medicine Huddinge**
- Members of the steering- and drafting committee´s, see our website:
- <https://staff.ki.se/our-ki/local-web/ana-futura-for-staff/about-ana-futura>



Science in 10 – *How Tick-borne encephalitis virus enters brain cells*

- **Sara Gredmark Russ, MedH/CIM**

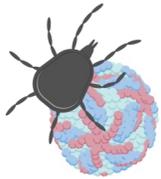


How Tick-borne encephalitis virus enters brain cells

Sara Gredmark Russ, MD, PhD

Karolinska Institutet

Tick-borne encephalitis – TBE



TBE virus is transmitted via tick bites



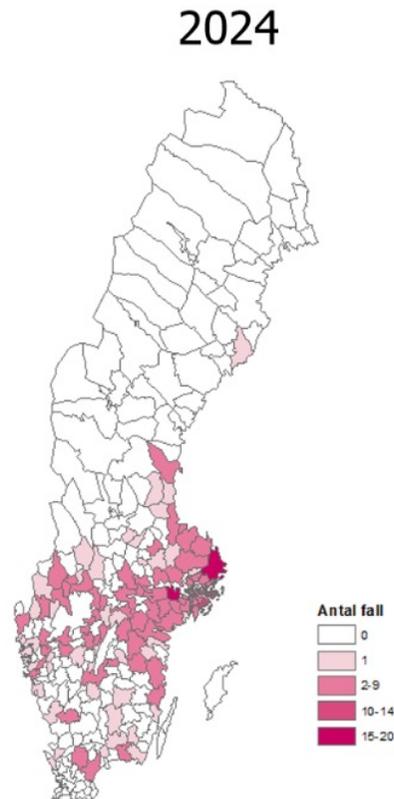
TBE virus infects the brain



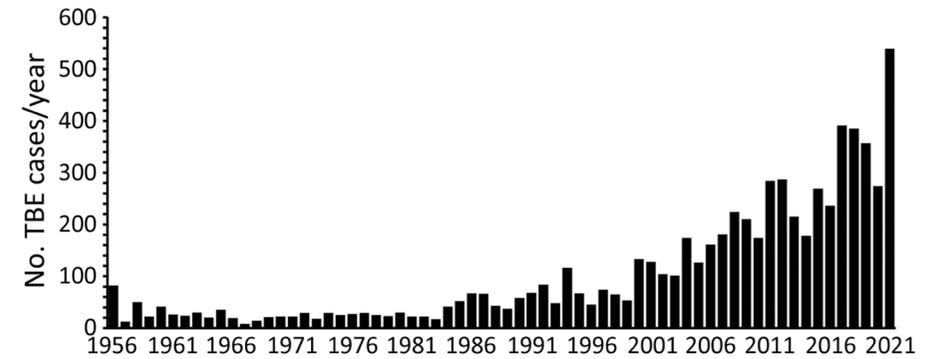
TBE can be prevented with vaccine



There is no treatment for TBE



Map over areas in Sweden with increased risk of TBE transmission
Källa: Folkhälsomyndigheten

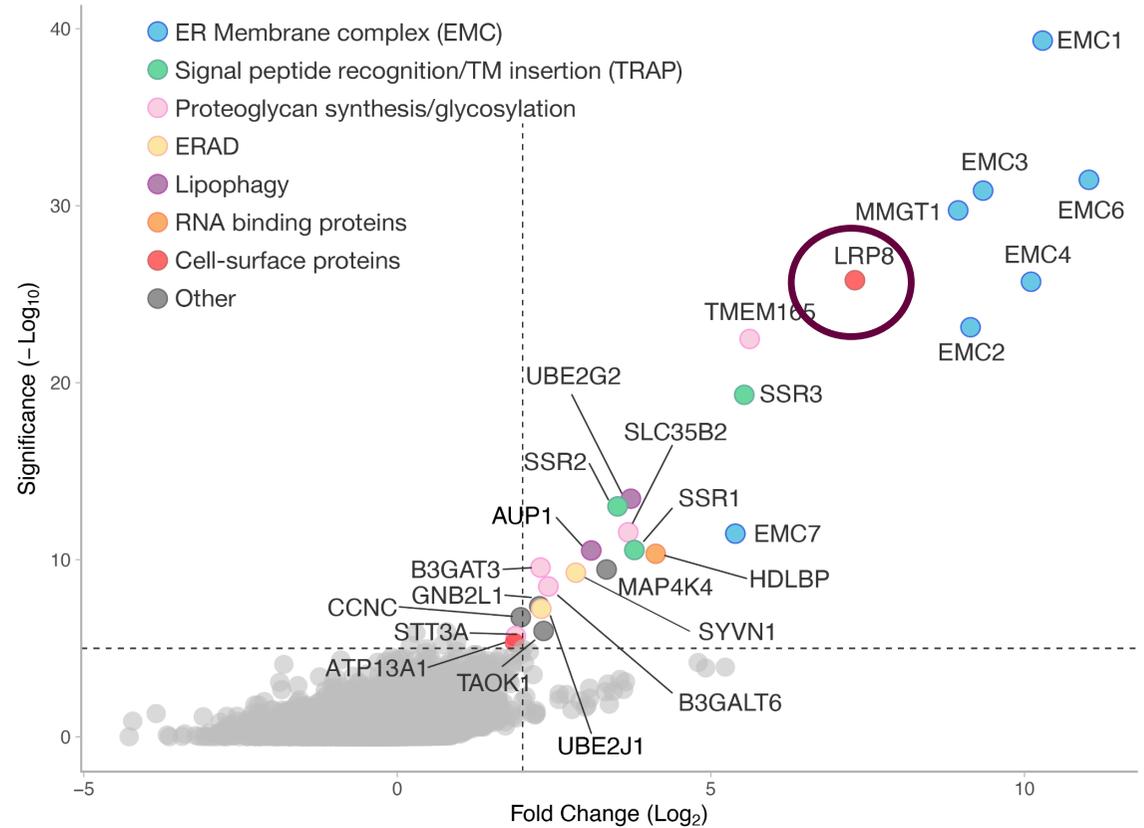
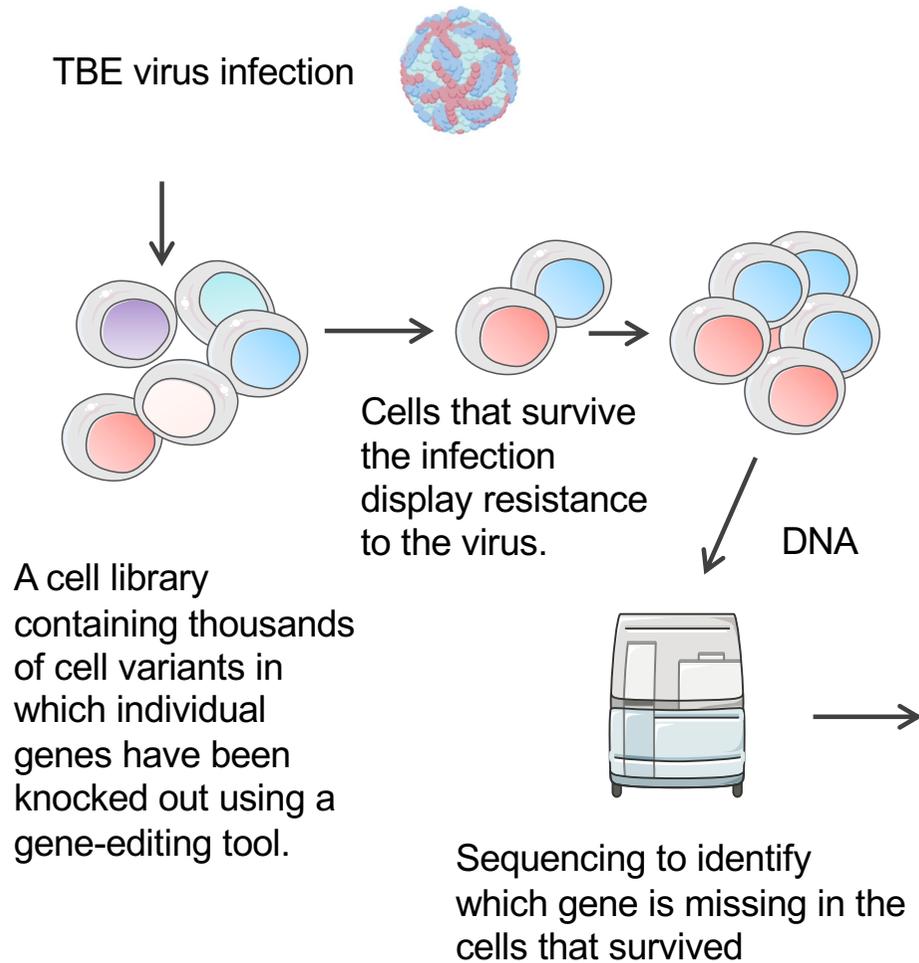


Slunge et al., 2022, *Emerging Infectious Diseases*

The number of TBE cases is increasing in Sweden and Europe despite an effective vaccine

To be able to develop a treatment and make improved vaccines we need to understand the basic virological mechanisms.

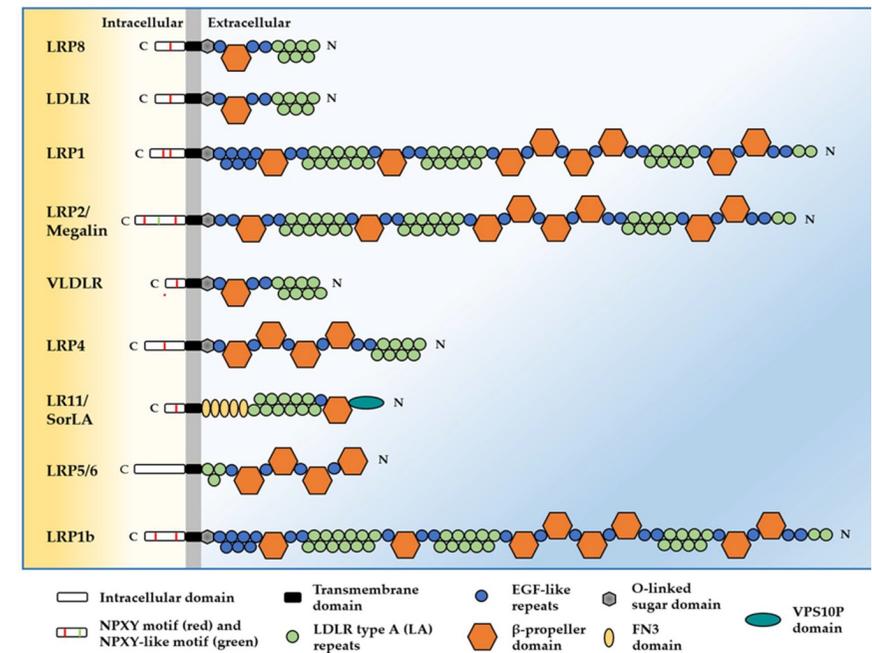
To find key proteins for virus infections



Mittler, Tse, Tran, Florez et al, Nature, 2025 Sept 24

LRP8 / APOER2

- Low-density-lipoprotein (LDL)-receptor
- Cell surface receptor involved in lipid homeostasis, cell migration, proliferation and differentiation
- Highly expressed in neurons
- Apolipoprotein E (ApoE) and reelin receptor
- Suggested to play a role in
 - cancer
 - neurodegenerative disorders
 - alzheimer's disease



Int. J. Mol. Sci. **2022**, *23*(16), 8921

4 mars 2026

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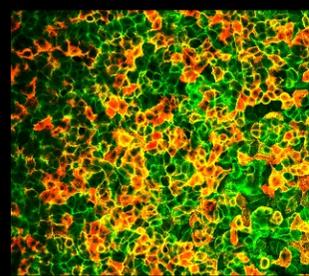
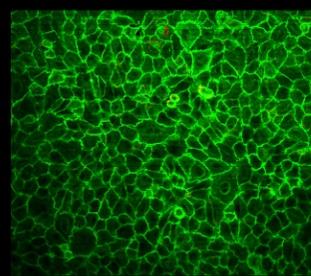
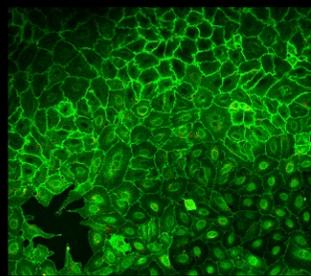
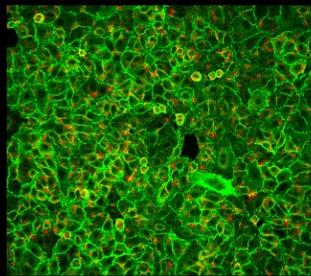
How can we prove that "our protein" LRP8 is a key protein for TBE virus infection?

A549

LRP8 KO-1

LRP8 KO-2

LRP8 over-exp

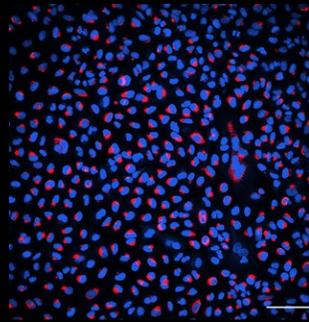
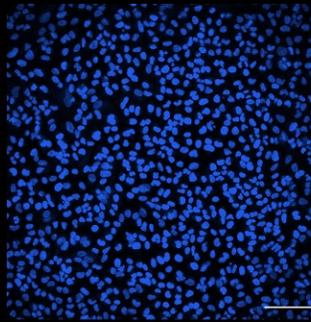
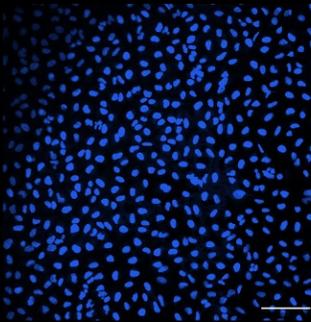
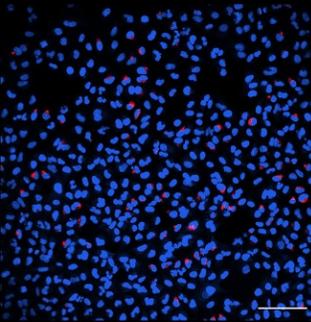


LRP8

Glycoproteins

(Plasma membrane)

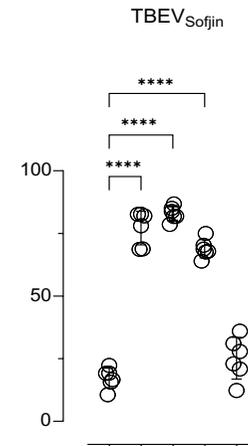
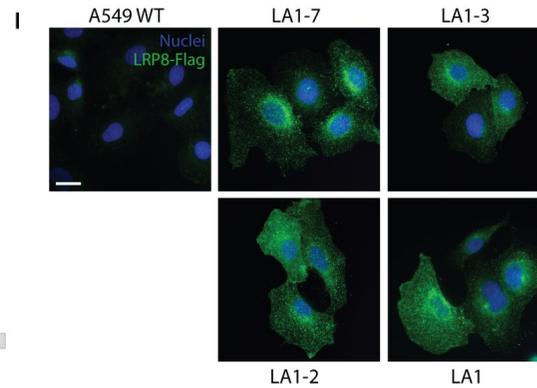
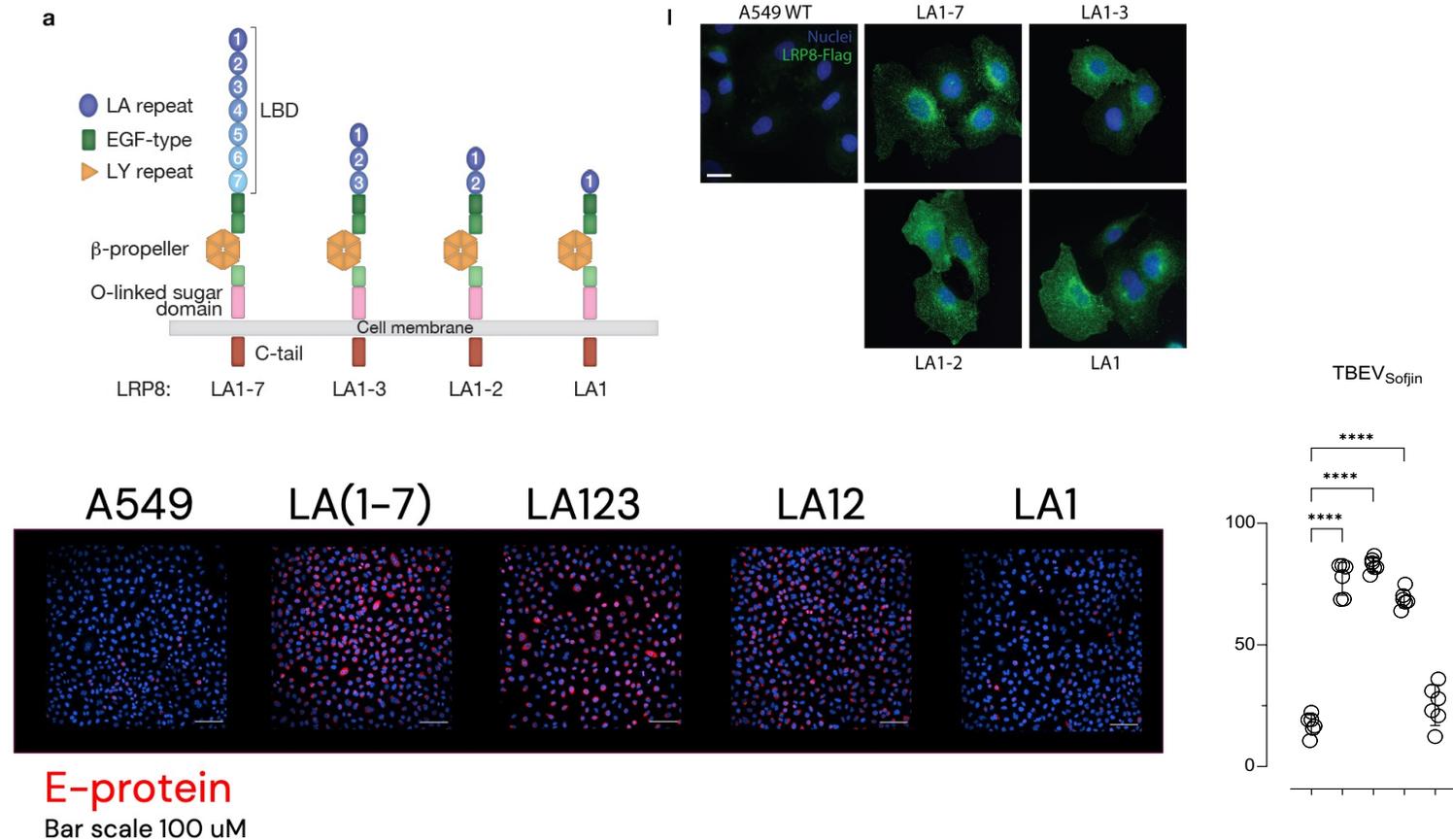
Cells with high expression of LRP8 are infected by TBE virus



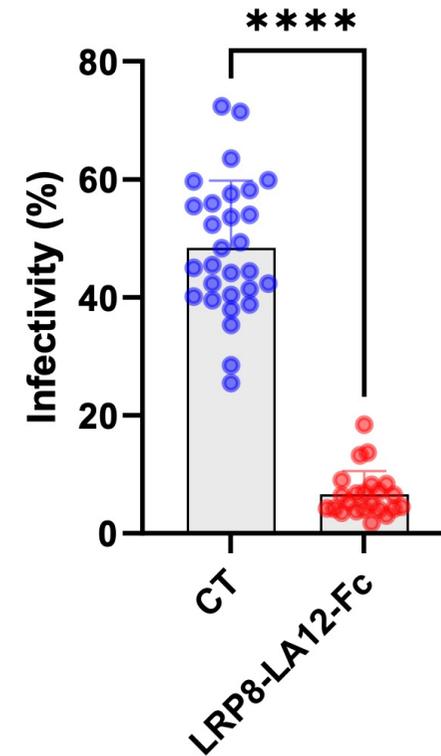
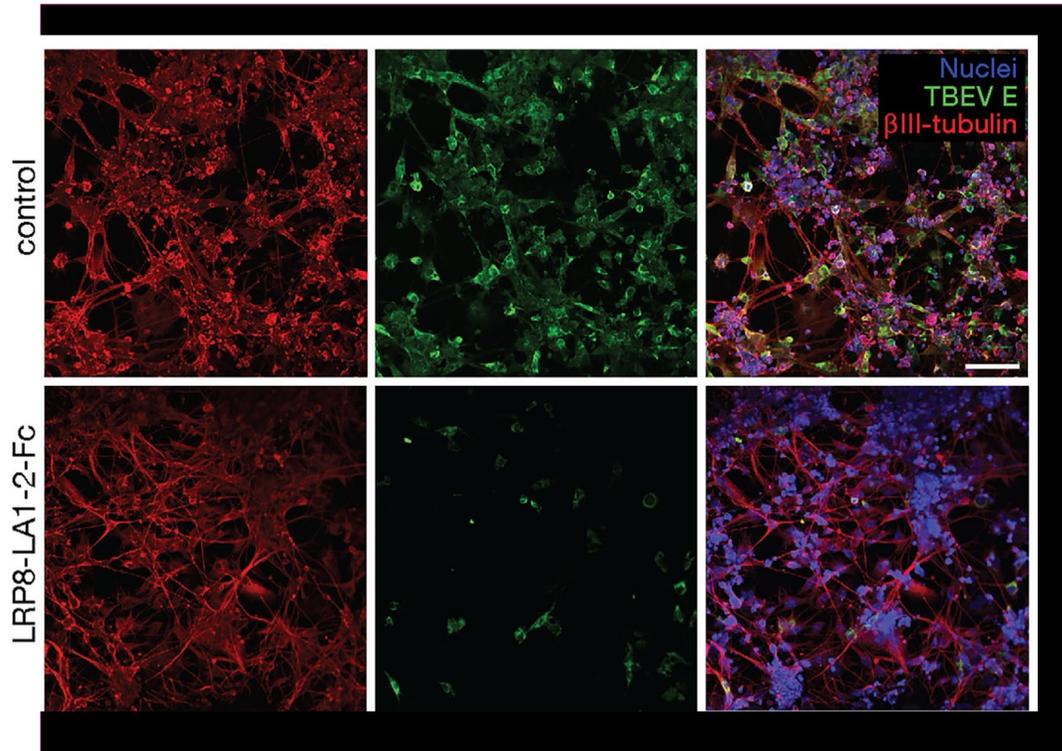
TBEV E-protein

Bar scale 100 μ m

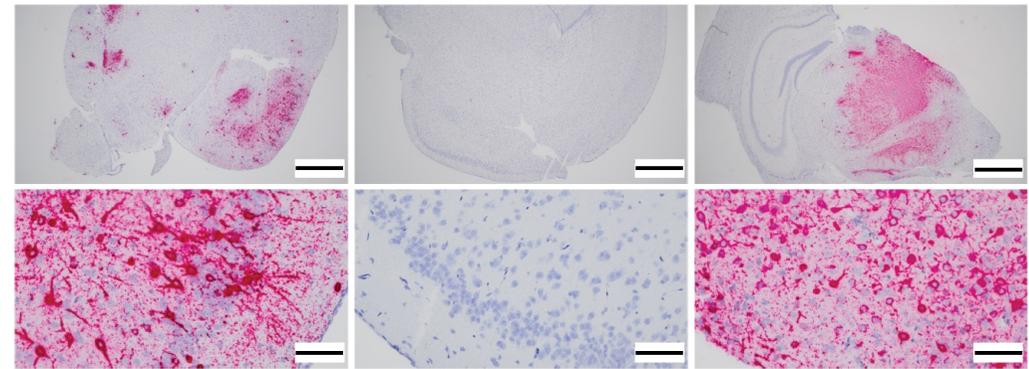
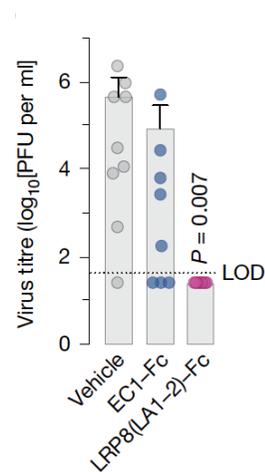
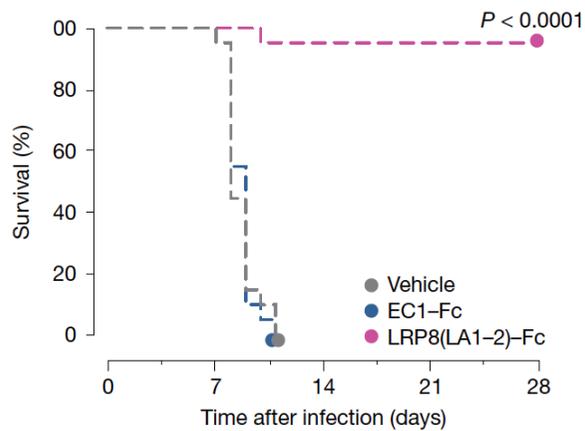
Which is the minimal sequence of LRP8 necessary for TBEV infection?



The decoy receptor protects hiPSC-derived neurons from TBEV infection



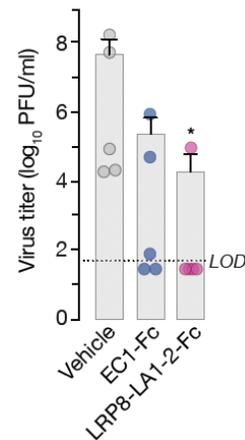
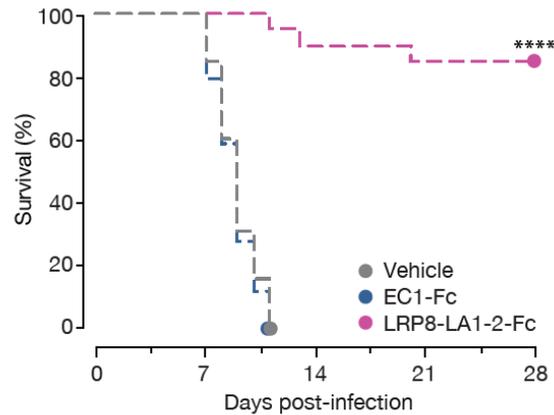
Blocking with soluble decoy receptor prevents infection in C57BL/6 mice



PBS

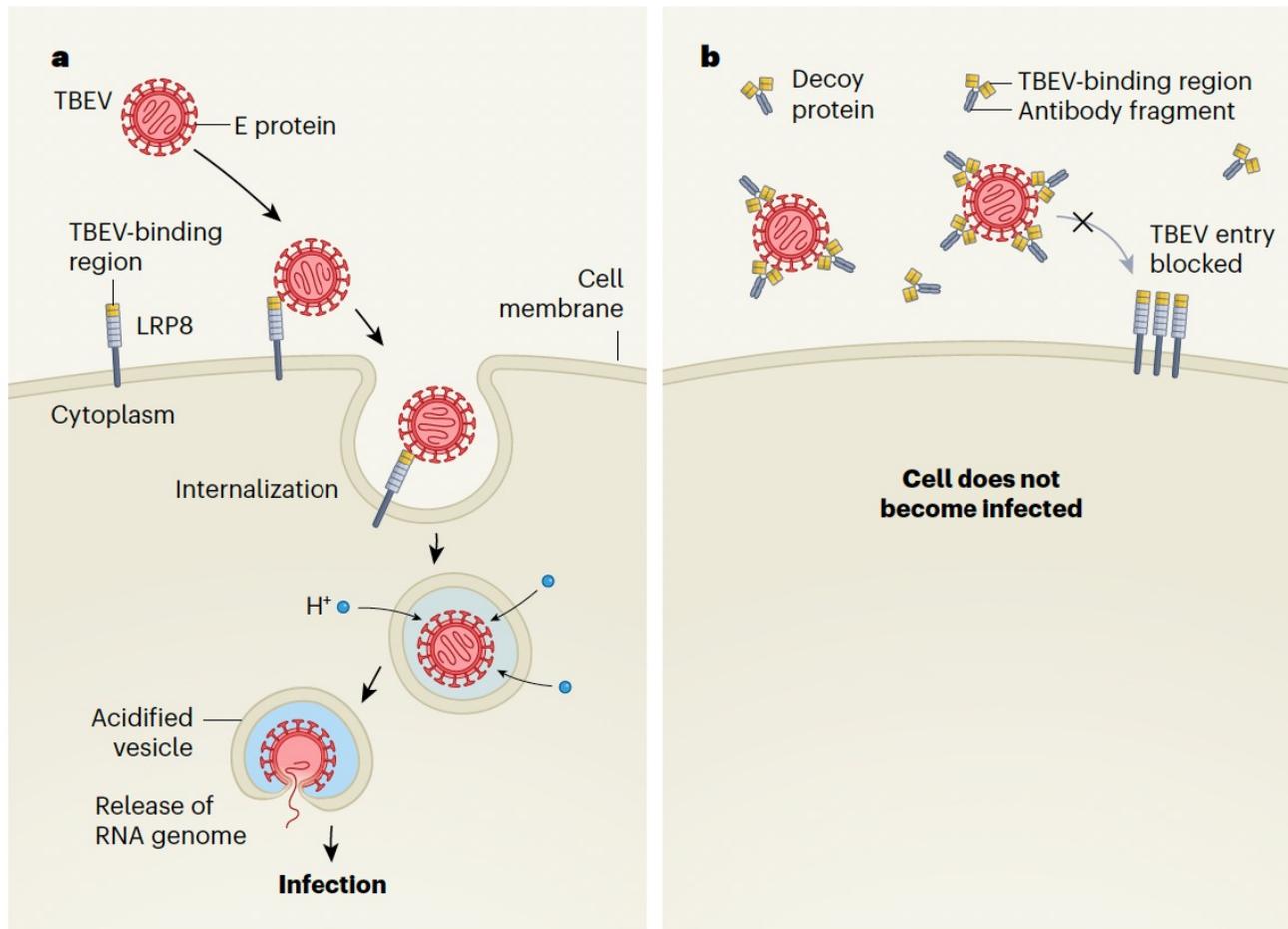
LRP8(LA1-2)-Fc

Control protein



Brain sections at 6 dpi
Immunohistochemistry stainings for
TBEV genomic RNA in red

How the TBE virus enters cells



Acknowledgements



Hung Tran
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**BSL3 FACILITY ANA
FUTURA**

Karolinska Institutet – ett medicinskt universitet



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Kartik Chandran
Eva Mittler
Alexandra L. Tse



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Catalina Florez



Felix A. Rey
Giovanna Barba
Spaeth



Anna. K Överby



Vetenskapsrådet
Swedish Research Council



*Marianne och Marcus
Wallenbergs Stiftelse*

4 mars 2026

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Questions?

- **Sara Gredmark Russ, MedH/CIM**
- <https://ki.se/forskning/forskningsomraden-centrum-och-natverk/forskargrupper/virus-och-dess-interaktion-med-immunforsvaret-sara-gredmark-russ-forskargrupp>



Latest ANA Futura news

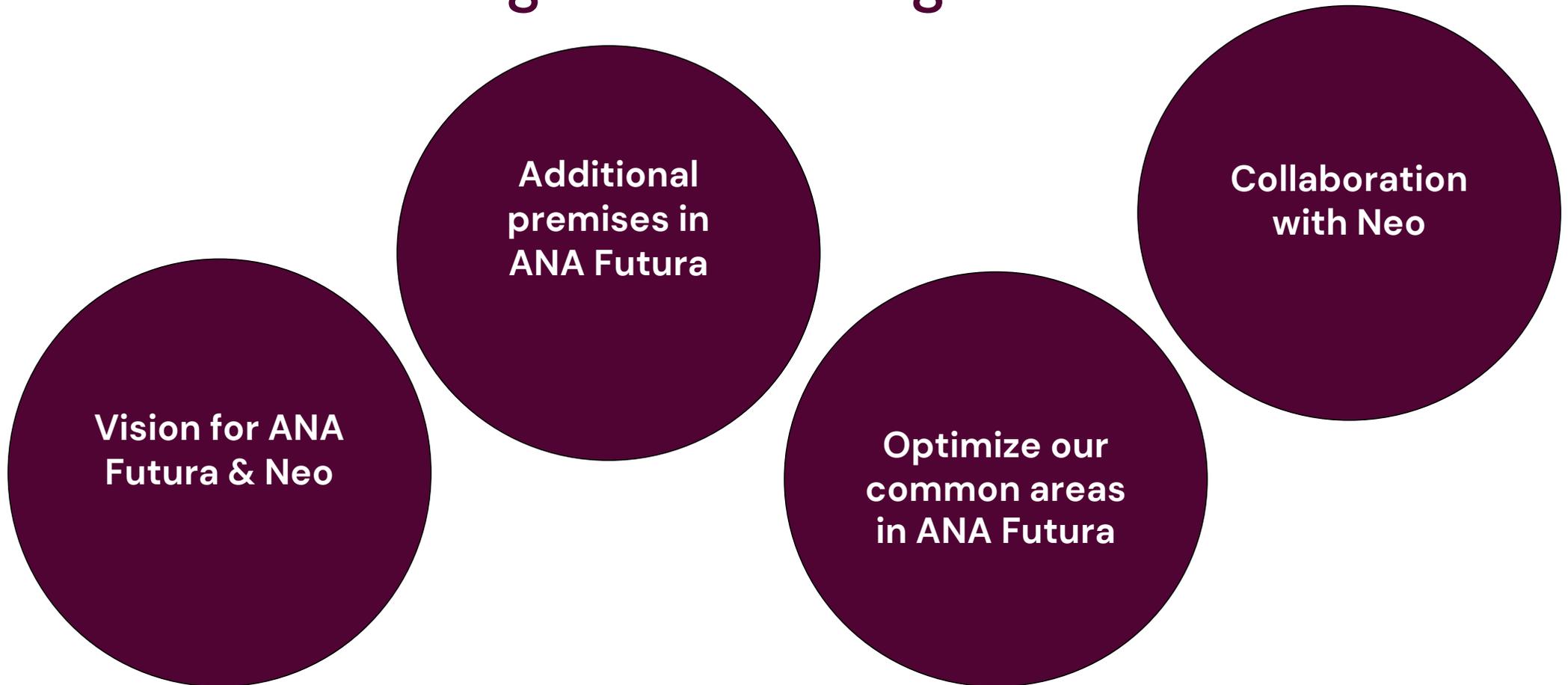
- Prioritized strategic work during 2026
- Call for funding for shared infrastructure within ANA Futura
- Centralized purchase of gloves and disinfectant
- Yellow bins
- Freezer facility
- Fire safety information meeting for staff in the ANA 8 building
- Update from the service team
- Next ANA Futura breakfast mingle

Facility
manager



Lars Frelin
LabMed

Prioritized strategic work during 2026



Call for funding for shared infrastructure within ANA Futura

Is important research infrastructure missing in ANA Futura?
You can now apply for funding for shared infrastructure

[Fund requests for shared infrastructure in ANA Futura](#)

Deadline for application: **March 31, 2026**.

ANA Futura Steering Committee

<https://staff.ki.se/our-ki/local-web/ana-futura-for-staff/support-tools-when-working-in-ana-futura/routine-for-fund-requests-for-common-infrastructure-in-ana-futura>

Process for fund requests for shared infrastructure in ANA Futura

This process applies for funding requests for shared infrastructure to be used by all researchers within ANA Futura.

Requesting funds for shared equipment only applies for infrastructure that is *not currently available* in the ANA Futura joint laboratories. Decisions is made by the ANA Futura Steering Committee.

The application process takes place twice a year. The first period, applications must be submitted **by March 31** and in the second period, applications must be submitted **by September 30**.

Centralized purchase of gloves and disinfectant

- **From 1 April 2026**, gloves and disinfectant will be purchased centrally in ANA Futura and Neo
 - Gloves (XS, S, M, L) will be placed in each recycling station on floor 7 and 8
 - Ytdest will be placed in a fireproof cabinet in one of the shared chemical rooms on floor 7



SMARTLine Powder-free blue nitrile gloves, 240 M/8, 10x100 St/Fp
NORDIC BIOLABS AB

SEK 540 / Förpackning



ecoSHIELD, Nitril Glove 250 M/stl 8, 10 x 150 St/Fp

NORDIC BIOLABS AB

SEK 1 790 / Förpackning



SHIELDskin Orange Nitrile Glove 260 XS, 10 x 90 St/Fp

NORDIC BIOLABS AB

SEK 1 600 / Förpackning



Yellow bins

- Every week, ANA Futura send approximately 100 yellow bins for destruction by incineration

Step	What happens
Sorting	Infectious waste, sharps, pharmaceuticals
Packaging	Sealed, labelled, max 12 kg
Collection	Service team
Transport	Licensed hazardous-waste transport
Destruction	High-temperature incineration



Yellow bins

- **Yellow bin (contaminated waste)**



- Sharps and infectious waste

- Liquid or solid waste associated with:

- Pathogens, viruses, blood, human/animal tissue
- GMM
- Vaccines, antibiotics
- Cytostatic, narcotic, or toxic drugs

- Gloves, paper towels, test tubes, etc. contaminated with chemicals labelled:

- Acute toxicity
- Serious health hazard
- Hazardous to the environment

- **Normal waste bins (non-contaminated waste)**

- Waste not classified as contaminated

- Materials (e.g. pipette tips, plastic tubes) exposed to chemicals without the hazard pictograms:

- Place in a sealed inner bag
- Then sort as normal waste



New structure for safety courses from 2026

- **Liquid Nitrogen Safety Course – general introductory course**
(appr. 3 hours, theory and practical)
 - The course will rotate between ANA Futura, Biomedicum and Neo
 - Mandatory every 4-year
- **Local safety course– at each facility**
(appr. 1 hour)
 - ANA Futura and Neo: theory + introction in the facility
 - Access to the freezer facility is granted after both courses are completed
- Both courses can be repeated as often as you want, but minimum every fourth year



Sign with contact information on your freezer

Make sure that your alarm recipient information is correct and updated

Information about this fridge/freezer:		Nilex number:
		XYZ
Room number:		
Department:		
Division/Unit:		
Research group leader/PI:		
Set temperature (celsius):		
Contact list:		Is the fridge/freezer connected to the alarm:
Email	Telephone no.	Yes
		Fridge/freezer alarm number:

Fire safety information meeting for staff in the ANA 8 building

- **4 March 2026**, 13.00–14.00, lecture room 4Z, by Magnus Sjöholm (Swedish)
- **11 March 2026**, 13.00–14.00, lecture room 4Z, by Magnus Sjöholm (English)
- *Information have been sent out regarding this meeting separately to all ANA Futura staff*



Update from the Service team

- **How to contact the service team**
- **Primary way for contact:**
 - Send your tickets to:
serviceteam.anafutura@ki.se
 - Register a ticket through the web portal:
<https://staff.ki.se/service-team-ana-futura>
- **Urgent matters:**
 - Telephone: 08-524 836 41
 - Talk to any member of the Service Team



Next ANA Futura breakfast mingle!



- **Drop-in breakfast 8.30 am**
- **Meeting starts 8.45 am – 9.30 am**

Questions from the staff



ANA Futura





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