PASSEB | Partnerství a sítě pro spolupráci v experimentální biologii

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Strukturní virologie, CEITEC

esf evropský sociální fond v ČR | EVROPSKÁ UNIE | MINISTERSTVO ŠKOLSTVÍ, MLÁDEŽE A TĚLOVÝCHOVY | OP Vzdělávání pro konkurenceschopnost | UNIVERSITAS MASARYKIANA BRUNENSIS

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

CEITEC

Central European Institute of Technology

BRNO | CZECH REPUBLIC

Structural Virology

Pavel Plevka

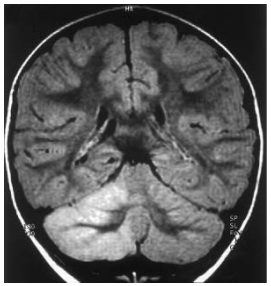
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
INVESTING IN YOUR FUTURE

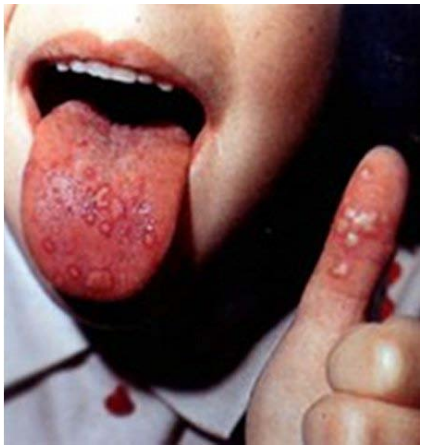
2007–13
OP Research and
Development for Innovation

Structural studies of human picornaviruses

Rhinoviruses
- 40% of common cold cases
- economic losses $16bn/year in USA

Enteroviruses (EV71)
- hand-foot-and-mouth-disease
- encephalitis

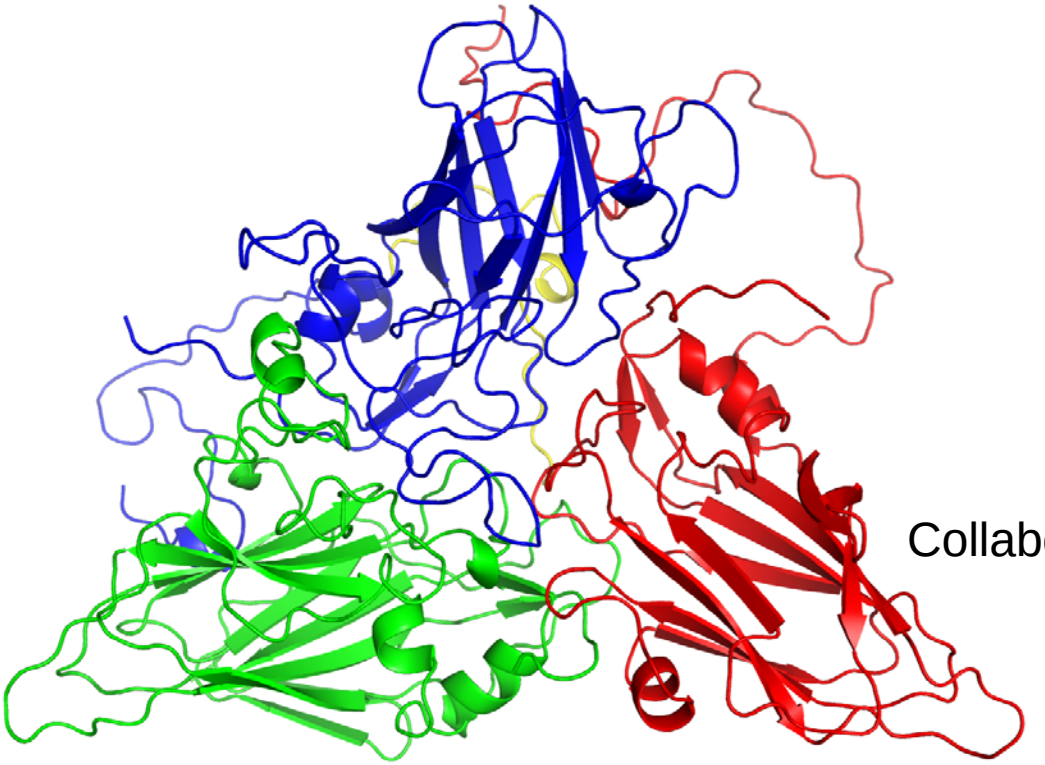


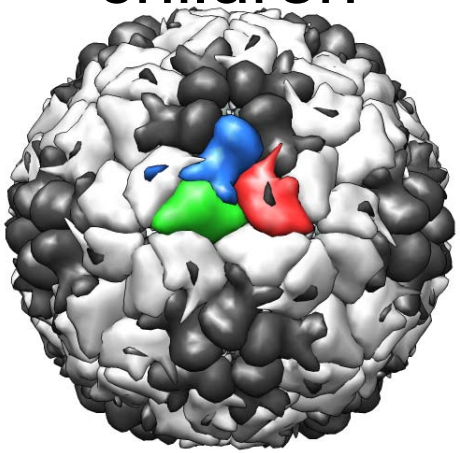


McMinn et al. Clin Infect Dis 2001. Image by Heng Soy, KI Media 2012.

Saffold virus 3 (Edu)

- severe diarrhea in infants and small children





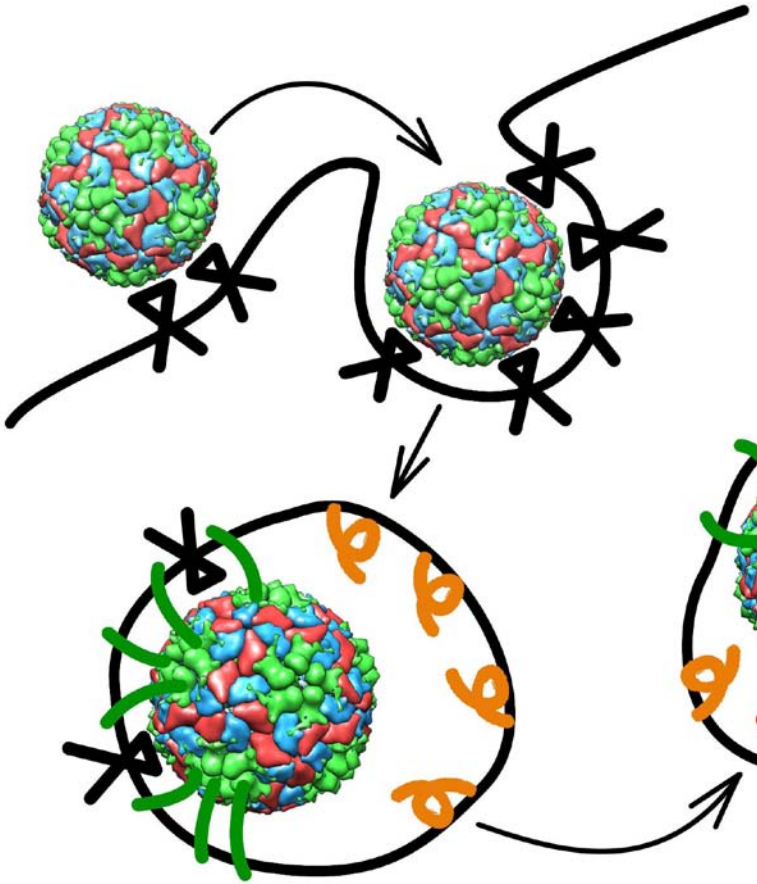
Collaboration with Michael Lindberg, Linnaeus University, Sweden

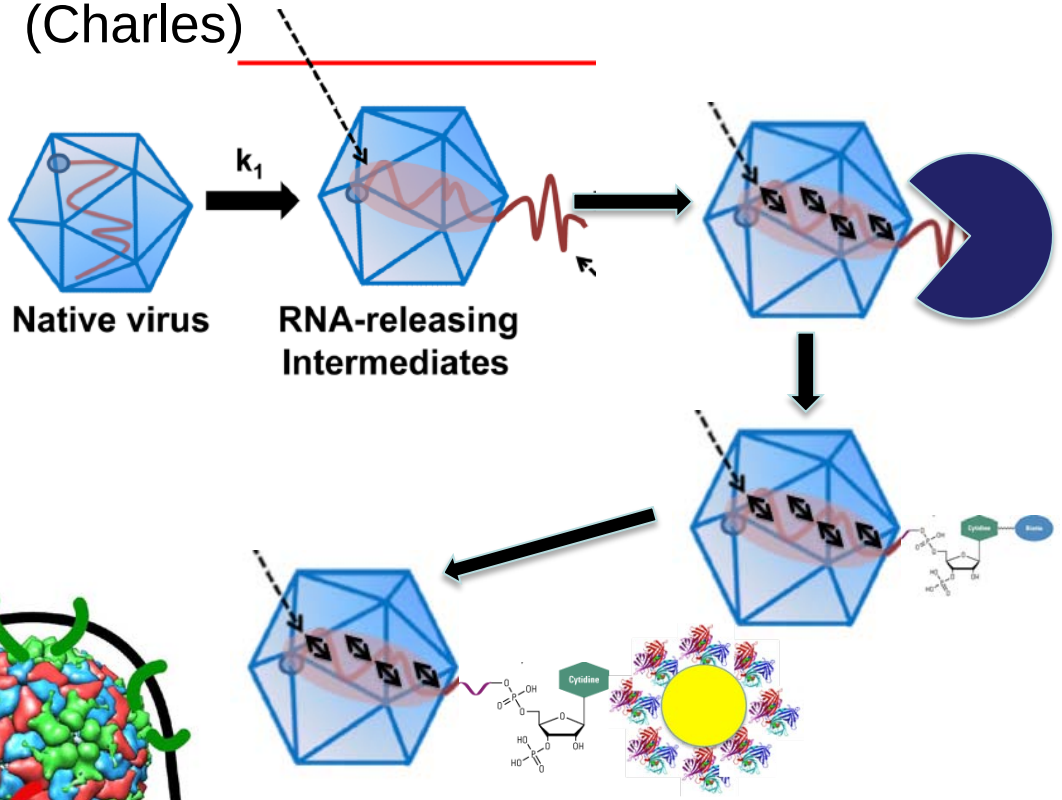
Aichi virus 1 (Charles)

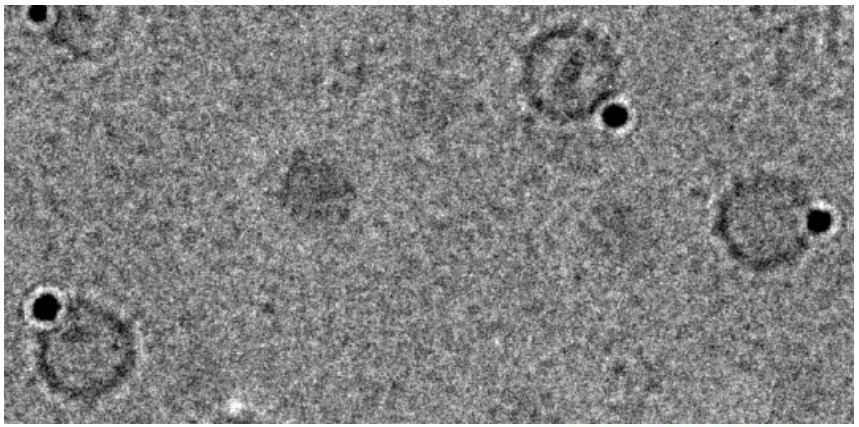
- nausea and vomiting

Genome release mechanism of picornaviruses

(Charles)

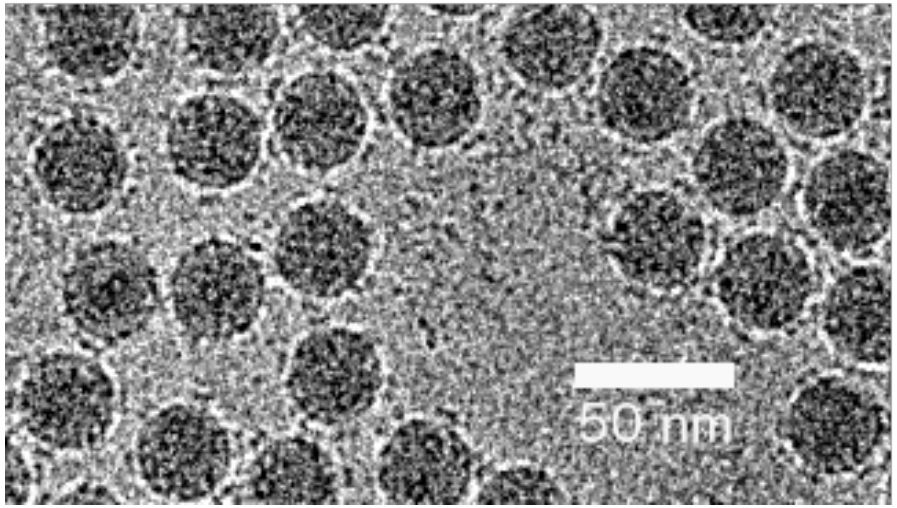






Viruses of honeybee

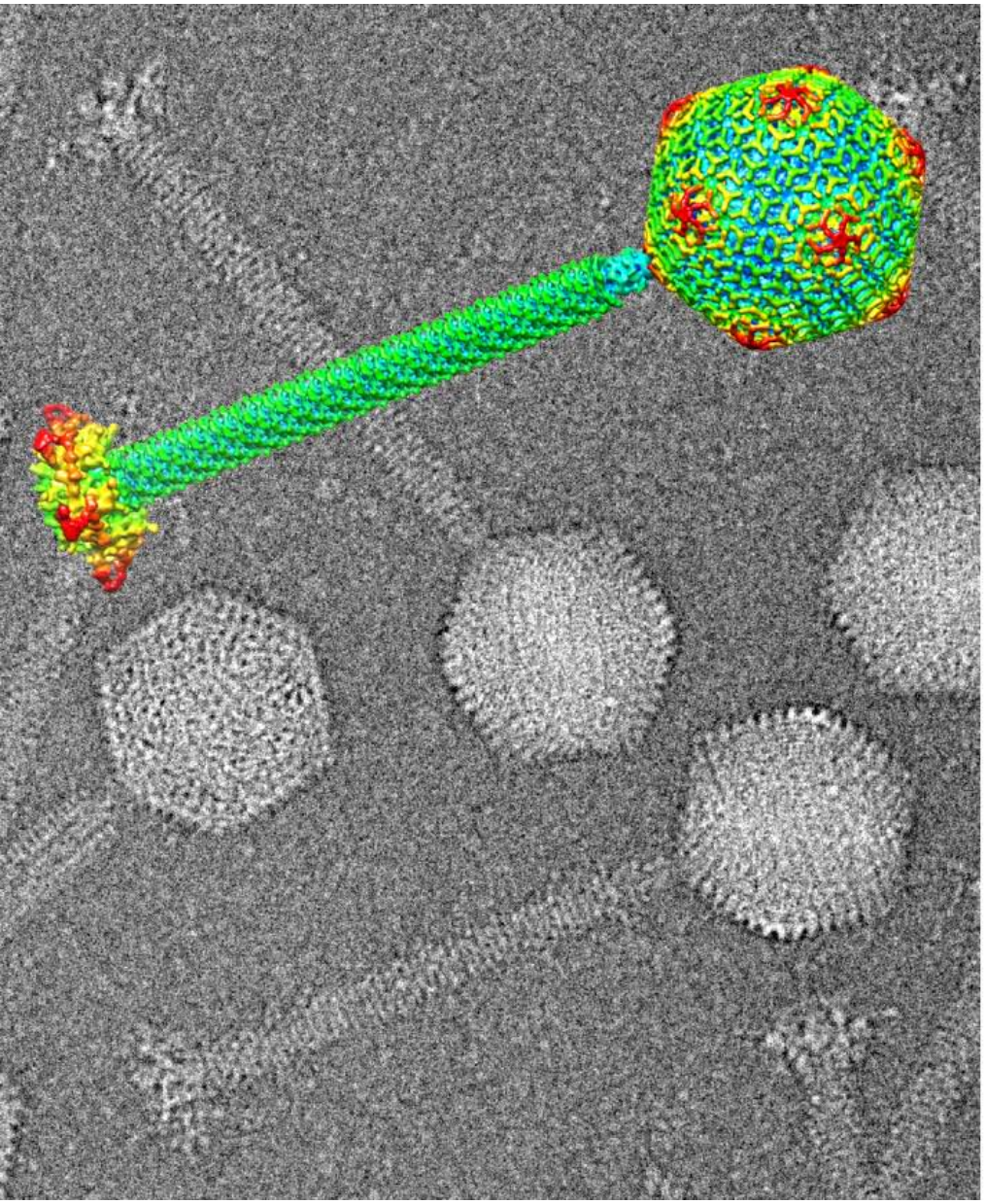
virus	researcher	data
IAPV	Edukondalu Mullapudi	4Å / 2.7Å
SBPV	Sergei Kalynych	3.4Å
KBV	Liya Muchamedova	7Å
BQCV	Tran Kiem Khahn Hoa	3.4Å
DWV	Karel Skubnik	7Å

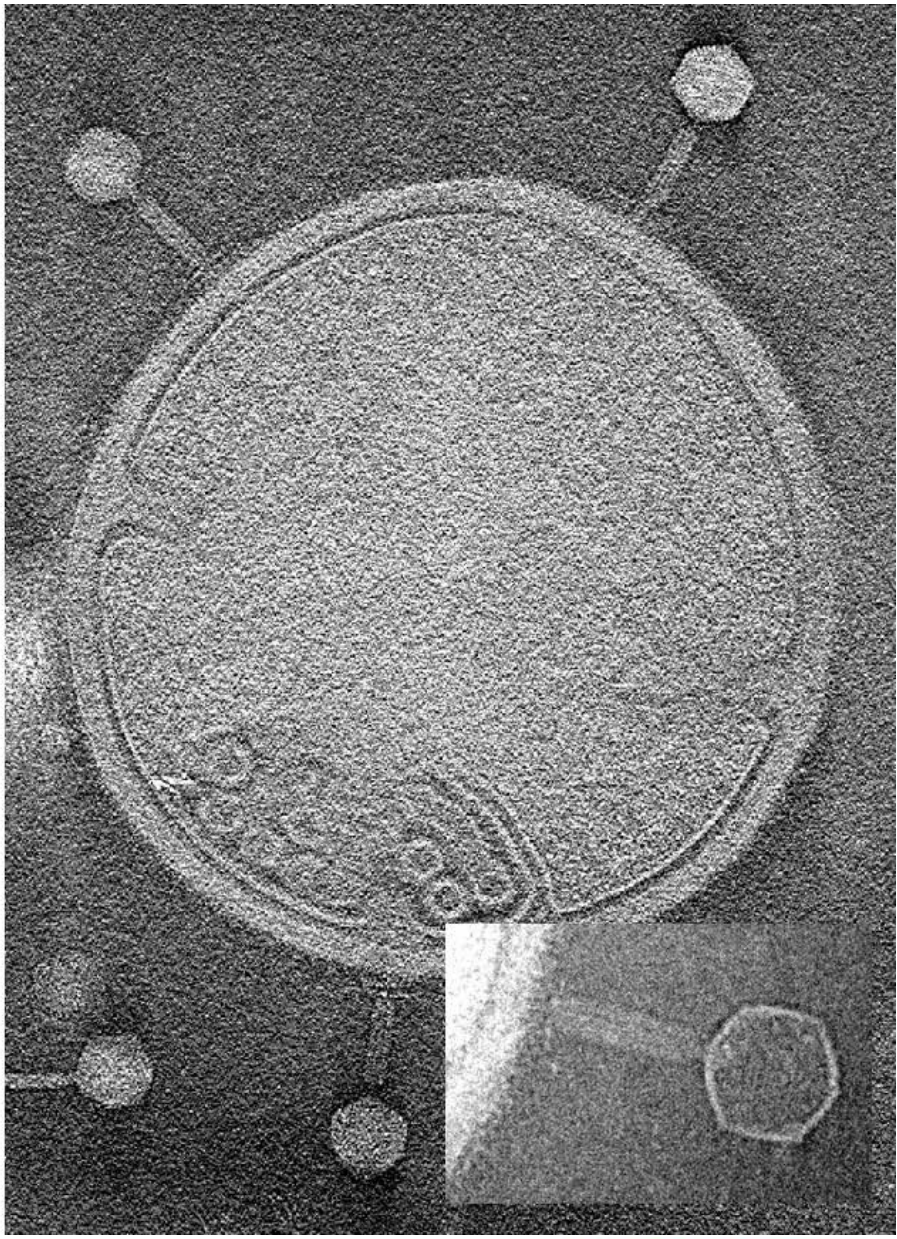


Purification developed by Lenka Palkova

Collaboration with Robert Paxton (MLU Halle-Wittenberg, Germany), Joachim de Miranda (Swedish University of Agricultural Sciences, Sweden), and Antonin Pridal (Mendel University, Czech Republic)

S.aureus phage φ812

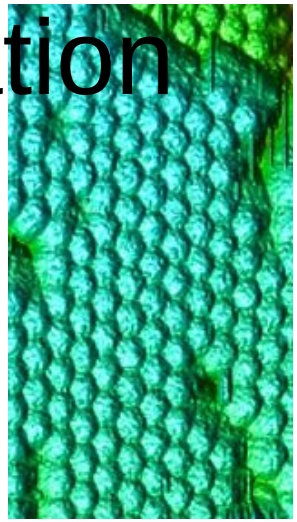




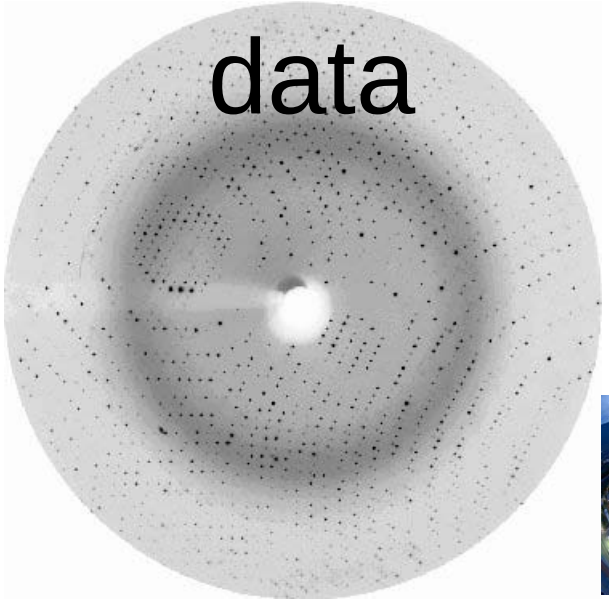
Work of Jiri Novacek and **Marta Siborova** in collaboration with Tanvir Shaikh, Daniel Nemecek, and Juergen Plitzko.

1. Virus purification

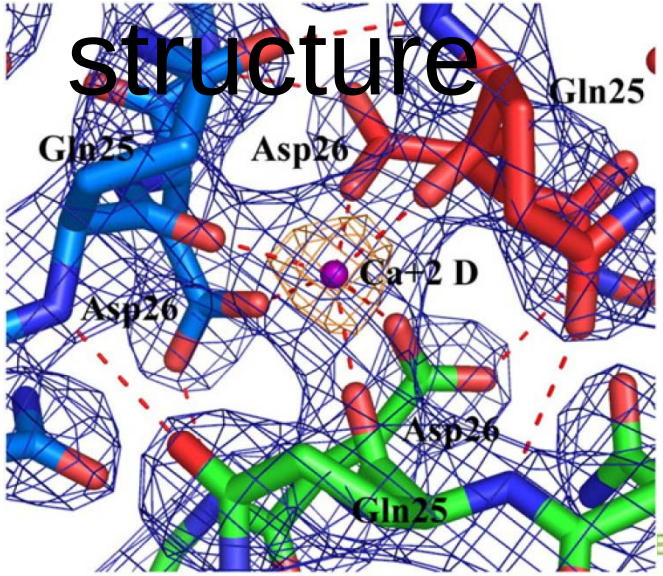
2. Crystallization



3. Diffraction data

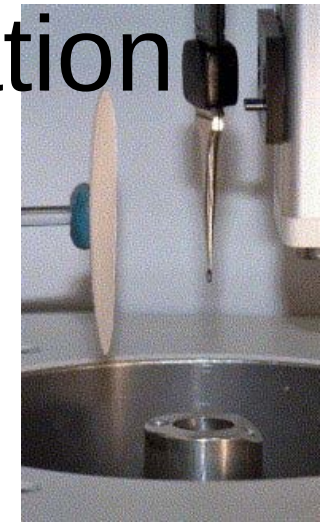


4. Solve structure

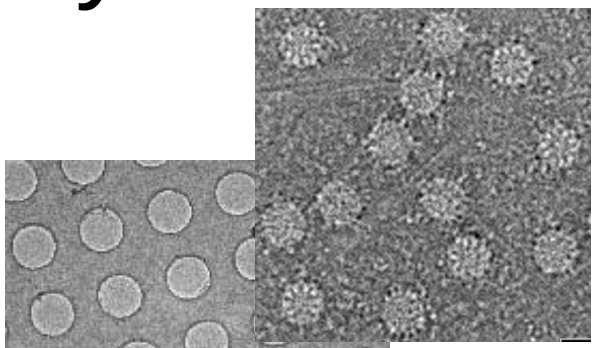


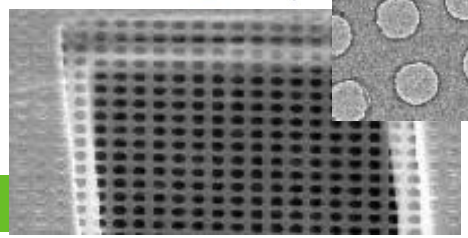
1. Virus purification

2. Grid preparation

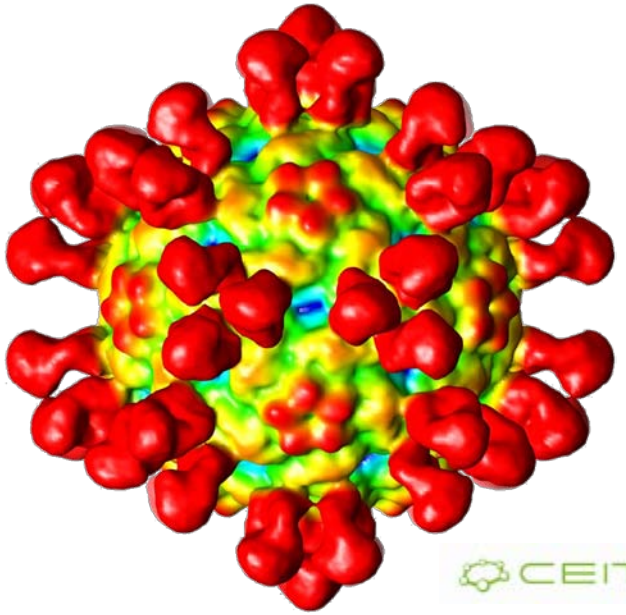


3. cryo-EM





4. Reconstruction



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Tento produkt je spolufinancován
Evropským sociálním fondem a státním rozpočtem České republiky

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