

Use Cases for Fragile, Sensitive and Perishable Materials under Controlled Conditions



PURE PROTEINS.

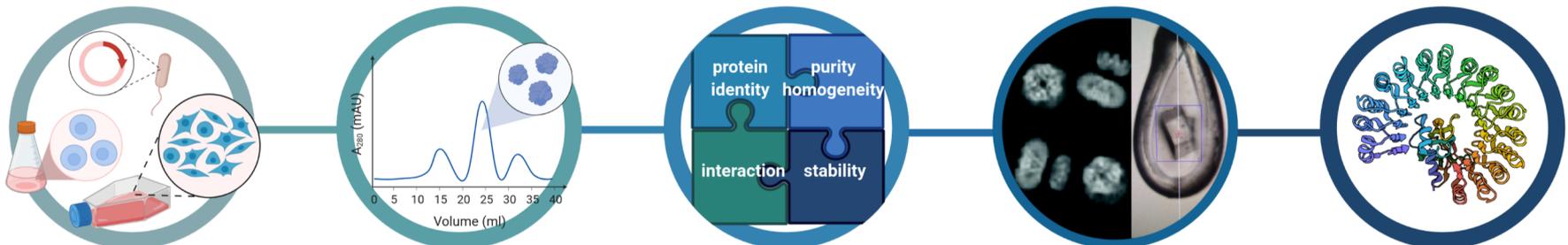
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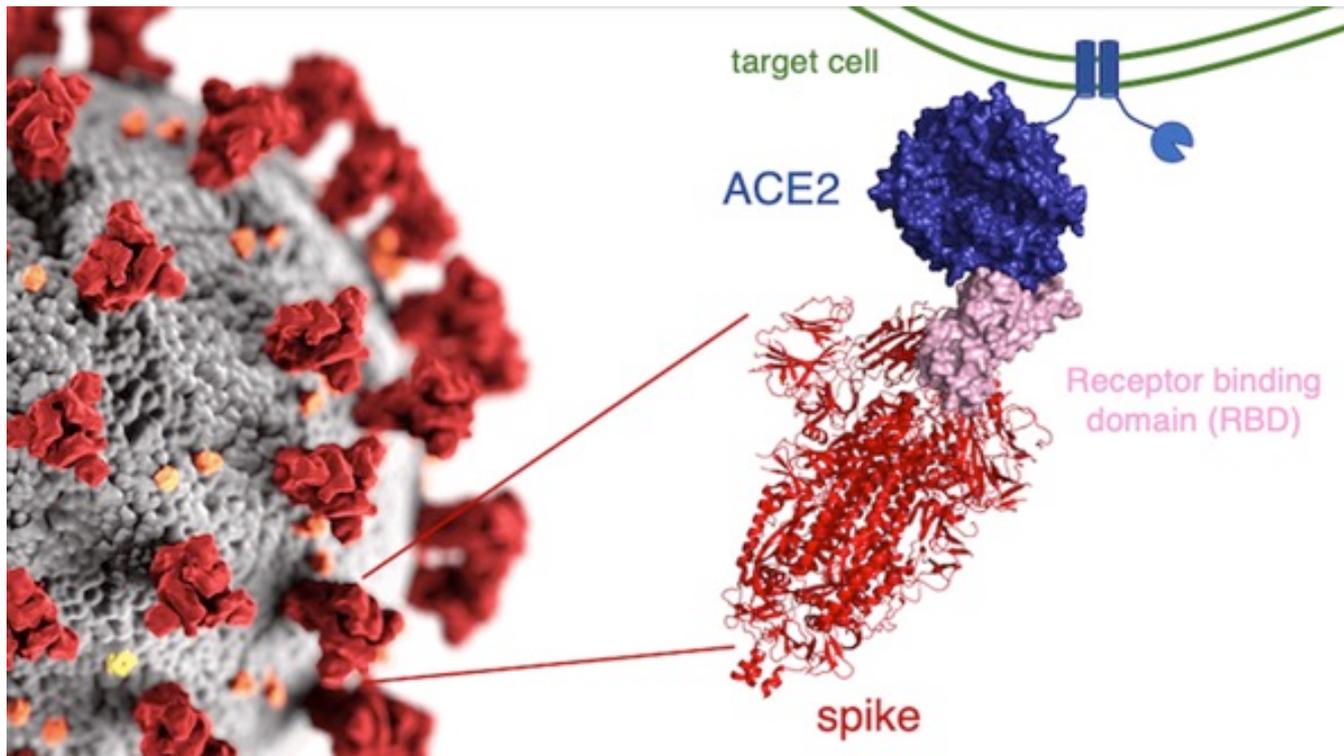
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- Founded in June 2012 by Dr. Holger von Moeller and Dr. Bernhard Loll.
- A team of experts in structural biology for drug discovery.
- Full service from protein production to structure determination.
- Projects for pharmaceutical, chemical and biotech industry worldwide.
- Partnerships with academic institutions and other leading CROs in the field.

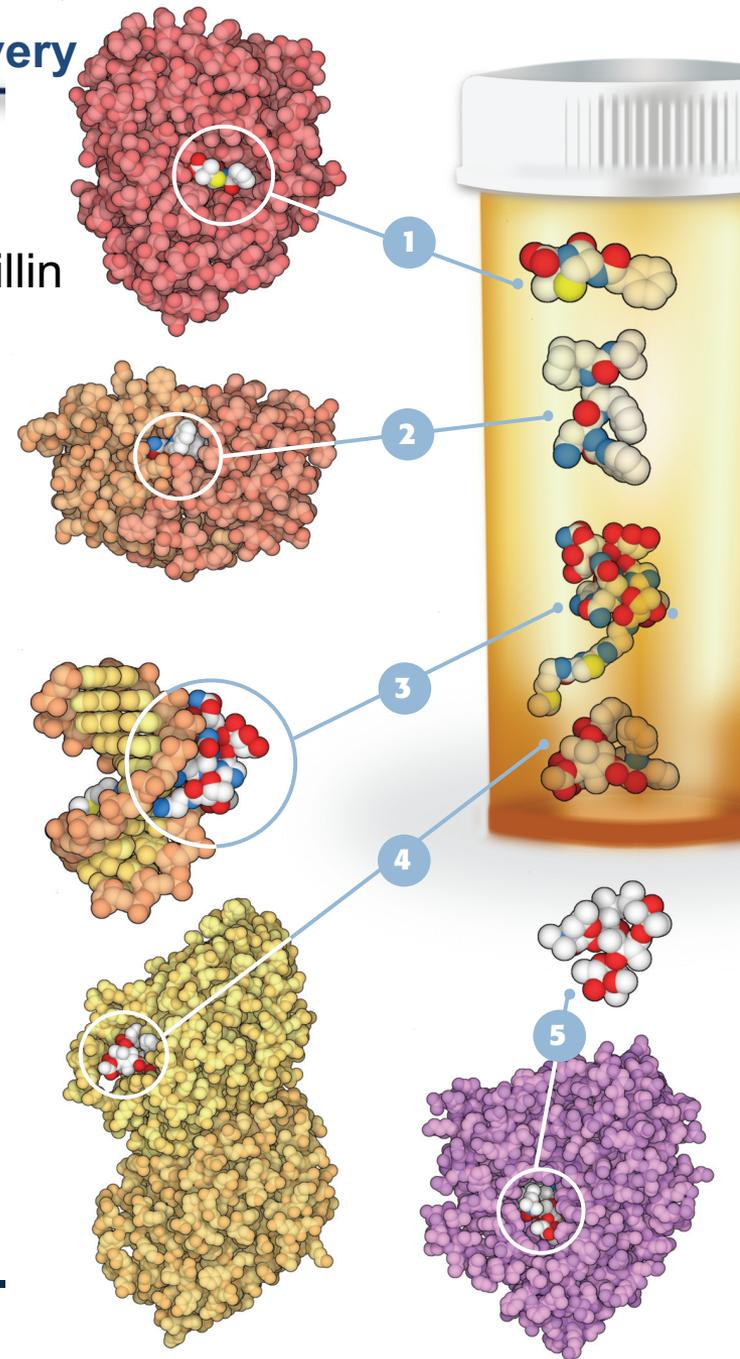




- Mutations of the SARS-CoV-2 spike protein (red and pink) affect the virus' ability to infect human cells.
- Knowledge of protein structures enables understanding the effect of mutations.

Importance of structural biology for drug discovery

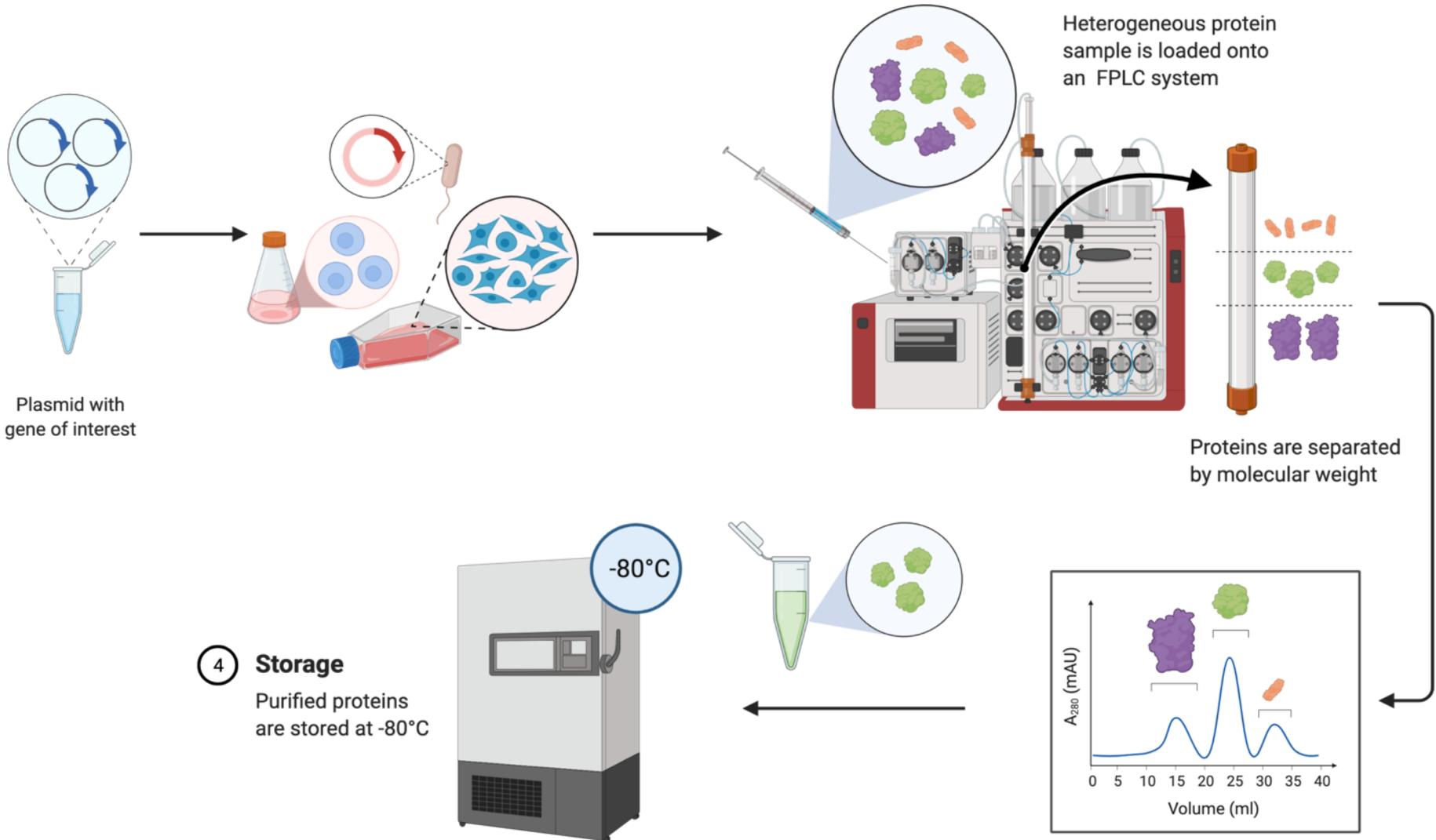
1. D-alanyl-D-alanine carboxypeptidase with penicillin
2. HIV protease with saquinavir
3. DNA with bleomycin
4. Tubulin with taxol
5. Cytochrome P450 3A4 with erythromycin

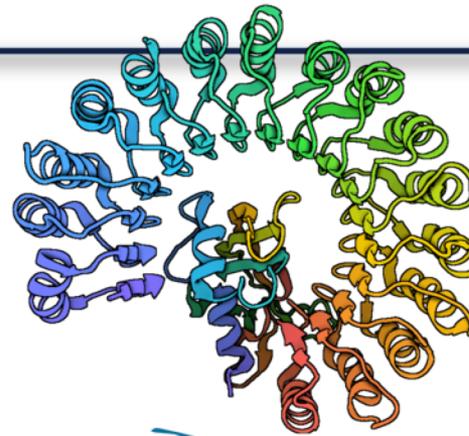
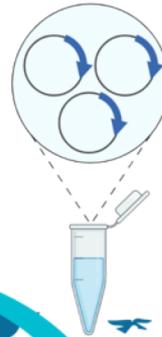


Pure proteins

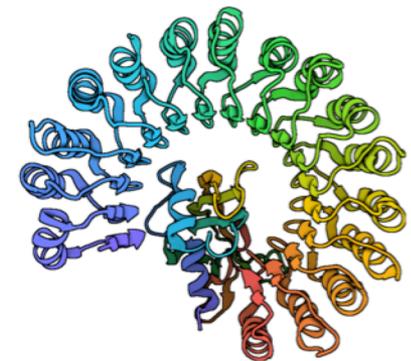
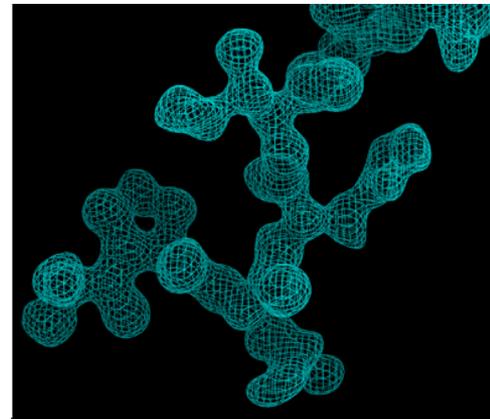
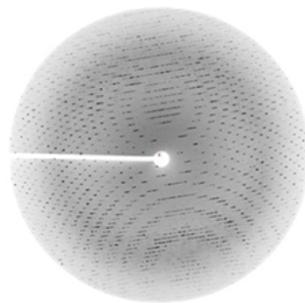
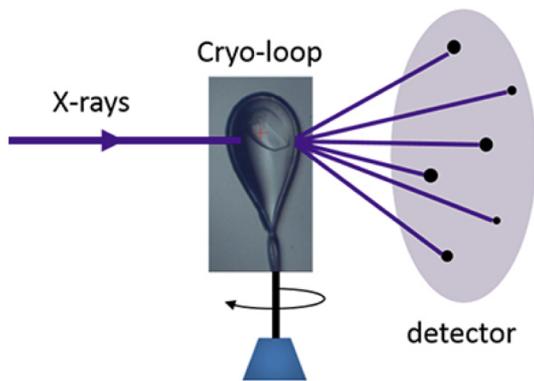
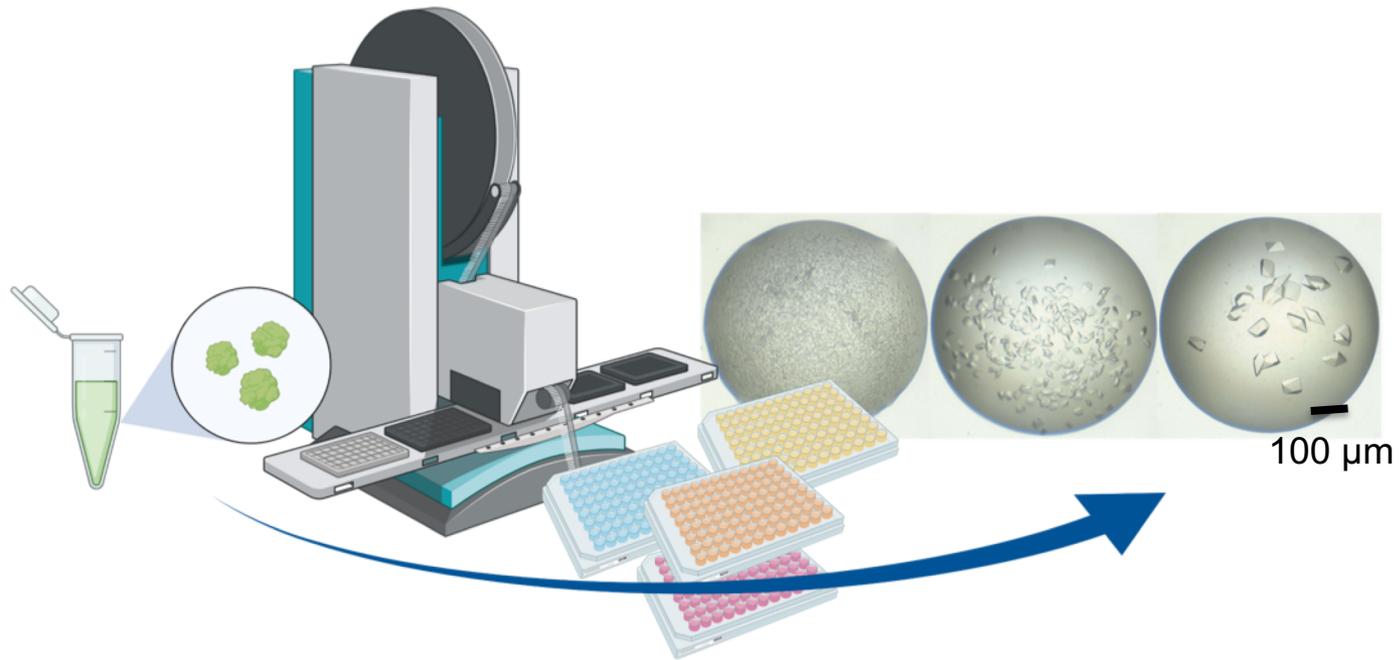


- 1 Gene synthesis
- 2 Protein production
- 3 Protein purification





- DNA is shipped at room temperature – no safety precautions required
- MOLOX produces proteins for research purposes – shipment world-wide on cool packs or on dry ice





Synchrotrons





SPINE puck

- 10 crystals
- 5 – 6 pucks/dewar

Uni-Puck – 16 crystals

- 7 pucks/dewar

➤ Different pucks required at different beamlines.

Samples

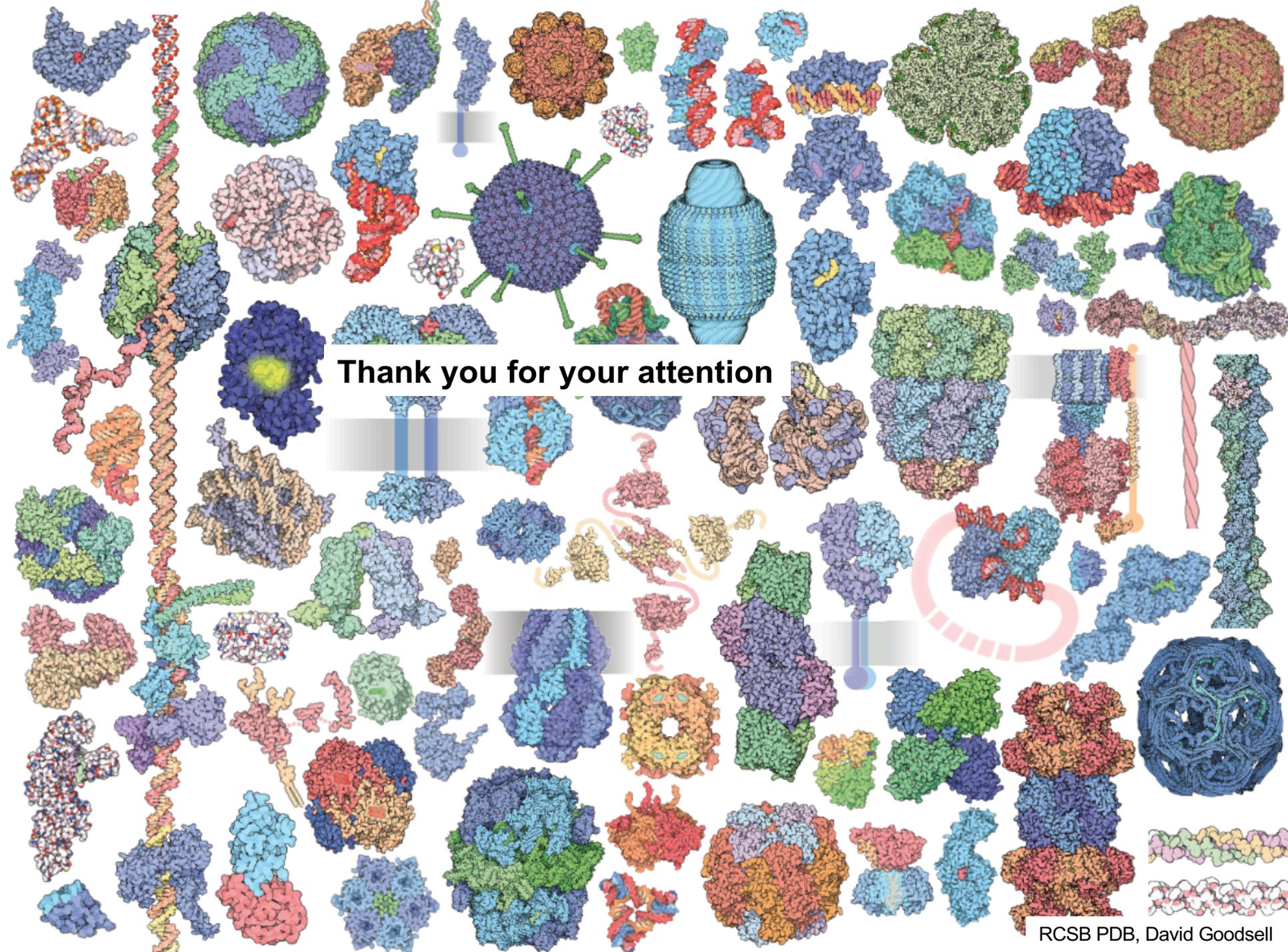
- DNA at room temperature
- Proteins on dry ice, with cold packs
- Protein crystals in dry shipper
- data (hard drives) at room temperature, protected against vibrations

Requirements

- fast/on-time delivery
- traceable
- reliable
- careful with the sample
- inexpensive
- little paperwork

Problems

- no information about strikes - delays
 - dewar gets stuck and does not arrive on time
 - samples warm up and are destroyed
- package not tracable – antigen tests
- paperwork because of customs (Brexit)



Thank you for your attention