

Virus Purification Workflow – Centrifugation Highlights

70 YEARS OF CENTRIFUGATION

Centrifuge to harvest cells containing virus



Allegra X-15R

- 200 xg 15min

Researcher can separate floating virus from cell containing virus and use both for downstream purification

Cell lysis and treatment



Avanti JXN-26

Centrifuge to clear cell debris

- 3000 xg 15min
- keep supernatant

High Performance / High Capacity centrifuges have the volume and efficiency to separate viruses from debris

Polyethylene glycol (PEG) precipitation

- 5000 xg 2min
- keep pellet

Centrifuge to further clarify viral mixture

- 5000 xg 10min
- keep supernatant

Density gradients to isolate viral Loads (active virus)

- 226,000 xg
- -1.5 hours (step gradient)
- 226,000 xg
- -20hours (continuous gradient)

Ultracentrifugation is efficient as it can uniquely purify fully loaded virus from incomplete virus.

Virus characterization

- Biophysical Experiments with AUC

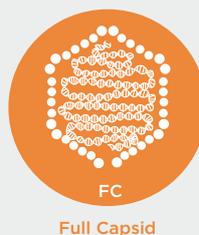
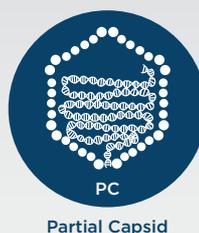
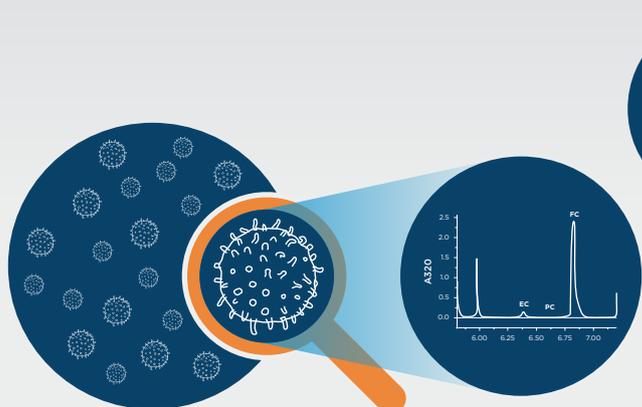
Analytical Ultracentrifugation can characterize quality and purity of virus particle



Optima XPN 100



Optima AUC



The Ultimate goal!

