An introduction to the Optima Analytical Ultracentrifuge

AUC is a versatile method to characterize the hydrodynamic behavior of biological (and other) samples in solution. It is based on the principles of sedimentation – the passage of samples down a tube in a centrifugal field. The Optima AUC instrument can detect samples based on UV-vis absorbance as well as refractive index.

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Why use AUC?

AUC addresses the following problems

In Pharma Discovery & Academic Research:
- Complex assembly stoichiometry
- Binding affinity & equilibrium constants
- Shape changes & allosteric events

In Pharma Quality Control:
- Gene therapy drug purity (viral packing efficiency)
- Biologics sample purity (aggregation/degradation)

Typical application areas for AUC

In Discovery:
- Protein/nucleic-acid/small-molecule interactions
- Nanoparticles, vesicles, polymers, viruses
  & more.

In Pharma Quality Control:
- Gene therapy products (AAV viral capsids)
- Biologics, biosimilars, antibodies & therapeutic peptides.

Summary

AUC characterizes biological samples in-solution, answers both QC and discovery questions without needing external calibration standards and eliminates problematic non-native interactions. Click here to learn more about getting started with AUC.