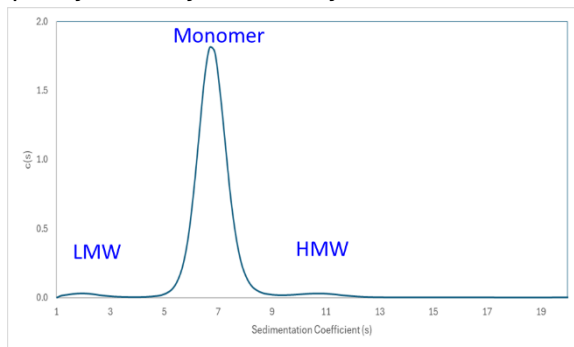


Analytical Ultracentrifugation to Access Quality of mAb, AAV & mRNA/LNP Therapeutics with SynchroBiotech

As a first-principle technique, analytical ultracentrifugation offers critical insights in accessing quality of macromolecules such as monoclonal antibodies (mAbs), adeno-associated viruses (AAVs) and mRNA/lipid nanoparticles (mRNA/LNPs). In AUC analysis, samples are analyzed in native state and no standard is required.

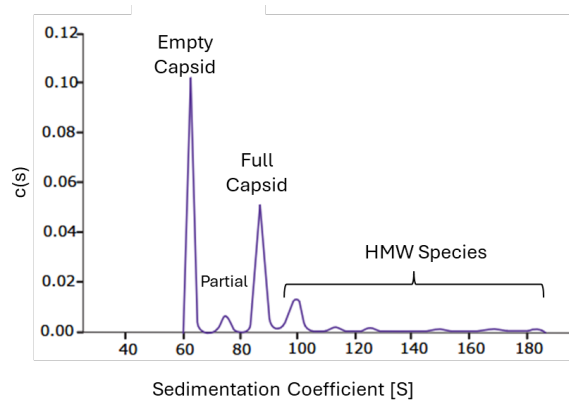
1. Quantify size variants in monoclonal antibody and other protein samples

As a complementary technique of size-exclusion chromatography (SEC), AUC can provide quantitative information on the hydrodynamic size and shape of antibody molecules. It is a powerful tool for detecting and quantifying antibody low-molecular weight (LMW) species, monomer and high-molecular weight (HMW) species, which can impact antibody drug's quality, efficacy, and safety.

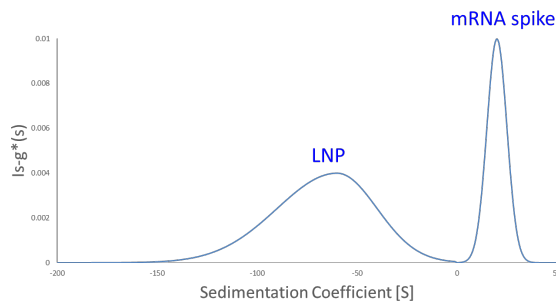


2. Determine capsid loading of AAV samples

Capsid loading is a critical quality attribute of AAV samples. Multiple techniques such as CDMS, AEX-FLR, AUC and SEC-MALS are used for this purpose. AUC remains the gold standard for determining capsid loading of AAV samples. Not only can it determine levels of empty and full capsids, but also it can reliably determine low levels of partial capsids and overloaded capsids/HMW species.



3. Measure particle size distribution and encapsulation efficiency of mRNA/LNP samples
The size of mRNA/LNP particles and the amount of encapsulated mRNA are two critical quality attributes strongly related to in-vitro potency of these samples. AUC can detect both floating and sedimenting components in mRNA/LNP samples. It can profile LNP size variants. It can also differentiate encapsulated mRNA from free mRNA in mRNA/LNP samples.



SynchoBio is a partner on CROaccess, a discovery and procurement platform where you can reach out about their suite of mAb, AAV & mRNA/LNP Therapeutic services, connect, and more. Learn more about SynchoBiotech by visiting their CROaccess profile at: <https://croaccess.com/cros/synchobio/>

