

CryoEM analysis workflow for viral vector-based gene therapy and vaccine development

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Transmission electron microscopy (TEM) can directly visualize sample of interest and combined with single particle averaging analysis can reveal more detailed, higher resolution feature of the sample. Cryo-electron microscopy (cryoEM) is a type of TEM to image frozen hydrated sample which allows scientists to study the specimens in their native states. Thus, cryo-EM has become a critical analysis tool in accelerating therapeutics and vaccine development in biopharma industry.

Nanolmaging Services provide both TEM imaging and analysis services to facilitate a comprehensive understanding of biological samples in all phases of the vaccine and drug development process. Here we used two case studies of adenovirus-associated virus (AAV) and adenovirus to exemplify our services including from morphological characterization to high-resolution structure determination. The workflow can also be widely applied to other samples such as nanoparticle-based drug delivery system, protein drug targets and antibodies.