Session 1: Building Strong Foundations: Early Phase Strategies for Potency Assays

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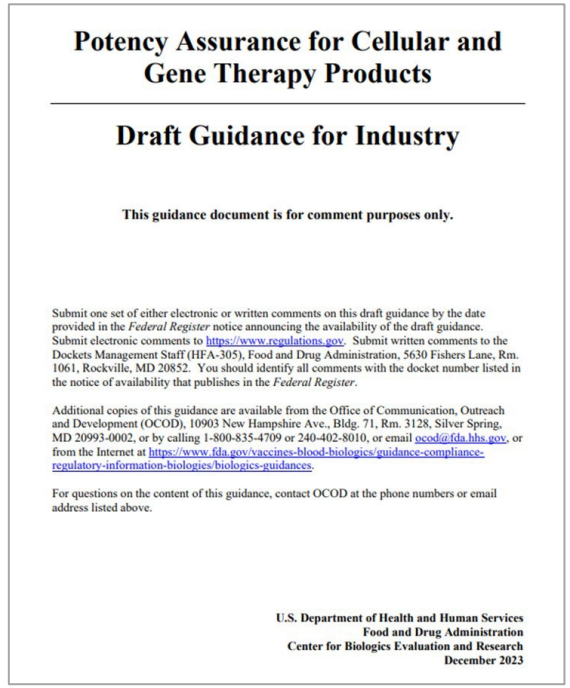
- Testing for potency is expected for all biological medicinal products including ATMPs.

- Regulators expect potency assays will reflect the product's mechanism of action (MOA)
  - Ideally, they should be predictive of the clinical response.

- Why do we need potency assays?
  - Demonstrate consistent manufacture of product
    - A requirement for product release
  - Establish comparability of product following manufacturing changes
  - Evaluate product stability and establish shelf life
  - Establish compatibility of product with product contacting materials



Potency Assurance for Cellular and Gene Therapy Products

Draft Guidance for Industry

This guidance document is for comment purposes only.

Submit one set of either electronic or written comments on this draft guidance by the date provided in the *Federal Register* notice announcing the availability of the draft guidance. Submit electronic comments to https://www.regulations.gov. Submit written comments to the Dockets Management Staff (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Rm. 1061, Rockville, MD 20852. You should identify all comments with the docket number listed in the notice of availability that publishes in the *Federal Register*.

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For questions on the content of this guidance, contact OCOD at the phone numbers or email address listed above.

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Food and Drug Administration
Center for Biologics Evaluation and Research
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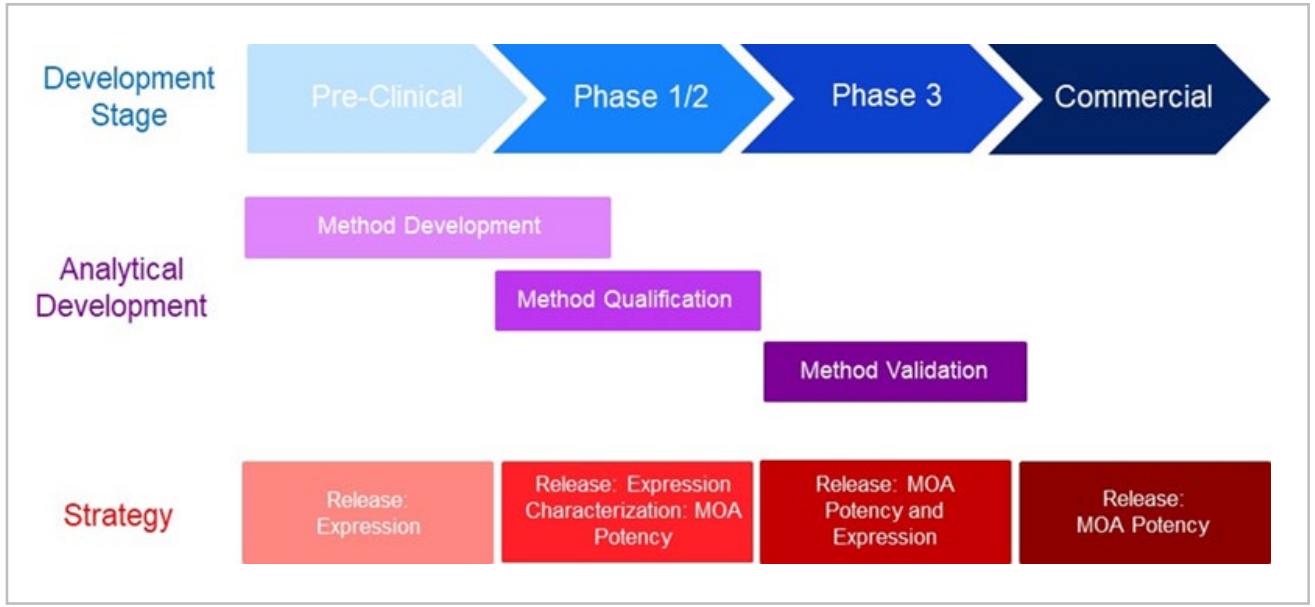
Phase Appropriate Development

- Early phase clinical trials
  - Patient safety is main concern
  - Potency assay less developed, linked to pre-clinical understanding of product
  - Acceptance criteria may not yet be established

- Later phases (Registrational/pivotal trials)
  - More stringent requirements
  - Improved potency assay, more reflective of the mechanism of action and predictive of clinical efficacy
  - Acceptance criteria established
  - Manufacturing consistency critical to link trials

- Marketing Application
  - Potency assay validated



Early Phase Strategies for Potency Assays

- As more complex and novel modalities are being developed, there is still much to learn about what attributes are important for potency assurance.

- In early phases of development, the mechanism of action of a new ATMP may not be fully understood.

- At early stage, developers face answering a number of questions:
  - What should be measured for potency?
  - What analytical methods should be used?
  - How much characterization data is needed?

- Starting to develop multiple potency assays early at the same time as increasing knowledge of the MOA is the ideal approach.
  - Availability of resources and test materials at early stage?

Session 1: Agenda

- Presentations
    - Case Study - Challenges and Opportunities in Developing Functional Dopamine Secretion Assays for Microtissues
        - Lucie Manache-Alberici, TreeFrog Therapeutics
    - Considerations for potency assay development for gene editing products
        - Ilya Shestopalov, Tessera Therapeutics
- Panel Discussion
    - Additional Panelist:
        - Christina Grigoriadou, AstraZeneca