UNIVERSITY of MARYLAND SCHOOL OF MEDICINE

# MSC Characterization Symposium

***Welcome and Some Lessons from Hematopoietic Stem Cells***

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Curt Civin, MD

UNIVERSITY of MARYLAND SCHOOL OF MEDICINE
CENTER FOR STEM CELL BIOLOGY AND REGENERATIVE MEDICINE

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# Overview

- Characterization may be easier for MSCs than for HSCs:
  - Via ex vivo expansion prior to MSC banking, there are large numbers of "surplus" cells for each batch of allogeneic MSCs prepared for therapeutic use
  - The clinical batches of allogeneic MSCs are generally prepared far in advance of clinical use, allowing time for functional assays
- For example, aliquots from MSC batches could be characterized for cardinal stem cell functionalities:
  - Self-renewal: Assay as expansion capacity over several weeks?
  - Differentiation: Assay as ability to form multiple lineages, especially the clinically desired lineage(s)
- In addition, aliquots from MSC batches could be characterized for malignant potential:
  - Clonality
  - Tumorgenicity in highly immunodeficient NSG mice?