REBEL

APPLICATION SNAPSHOT

Select the best chemically defined CHO media from the start with the Rebel.

BACKGROUND

The selection of chemically defined cell media and feed systems is one of the initial steps in process development. Regardless of the cell line, industrial process or bioreactor type, all development teams must wade through the fog of spent media analysis and model building to define a media optimization strategy. A key aspect of that journey is the relationship with cell culture media providers, both outside vendors and specialized teams within your organization. Performing your own quick assays of the media you receive ensures consistency in the cell media fed to your cells.

THE EXPERIMENT

Below is a rapid snapshot of eight chemically defined cell media optimized for CHO cells (Figure 1). All media tested did not include glutamine. Samples were taken from freshly delivered media and diluted 100X prior to analysis. The concentrations reported by the Rebel™ were averaged across five replicates for each formulation.

DISCUSSION

It is vital for researchers to work with established cell media providers to ensure that their cell media choice is right for their application, and that handling of the media once received is appropriate. In this experiment, certain amino acids like His, Met, Phe and Tyr were present at very similar levels regardless of the formulation. Other amino acids like Ala, Asn, Asp, Glu, Gly and Trp were not detected in all formulations. The dipeptide cystine was only present in one formulation, and there was a 12.5X difference between the highest (formulation D) and lowest (formulation B) concentration of Arg. The vitamins B6-OH (pyridoxine) and NAM (nicotinamide) were present at high enough concentrations to be detected at this dilution in certain formulations whereas the nutrient choline was present in all the media tested.

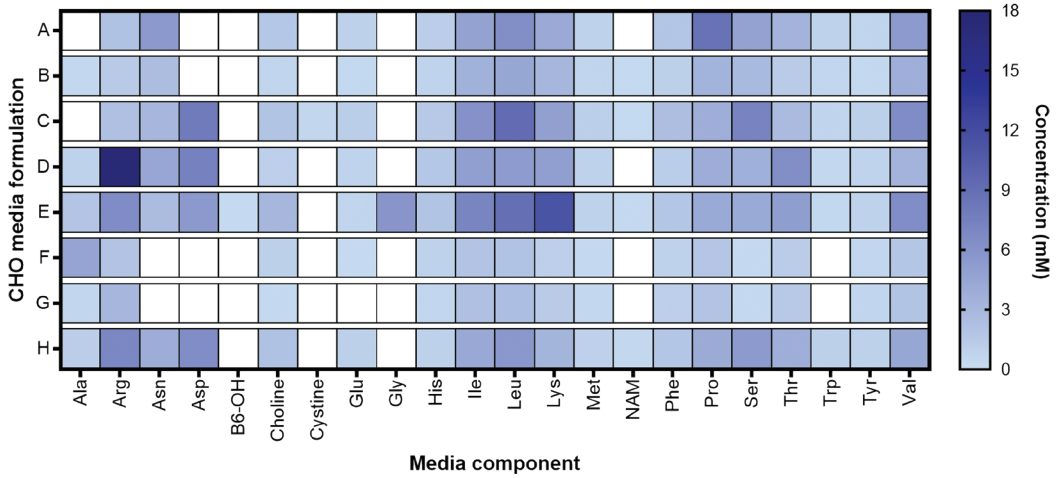
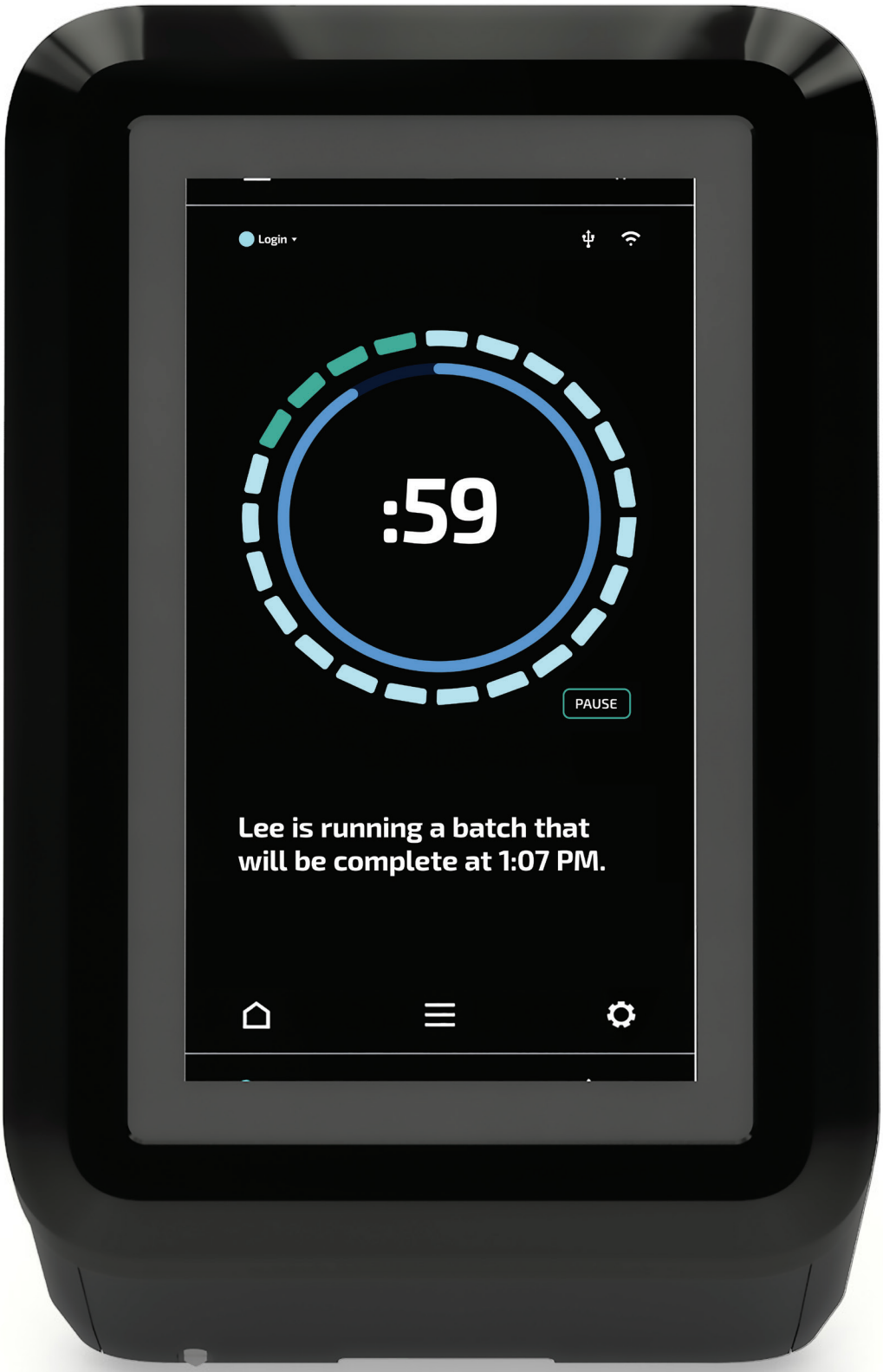


Figure 1: Comparison of eight commercially available chemically defined CHO medias run on the Rebel. Components that were absent or not detected are shown with white boxes.


Login
:59
PAUSE
Lee is running a batch that
will be complete at 1:07 PM.