

Vero cells gain renal tubule markers in low-calcium and magnesium chemically defined media

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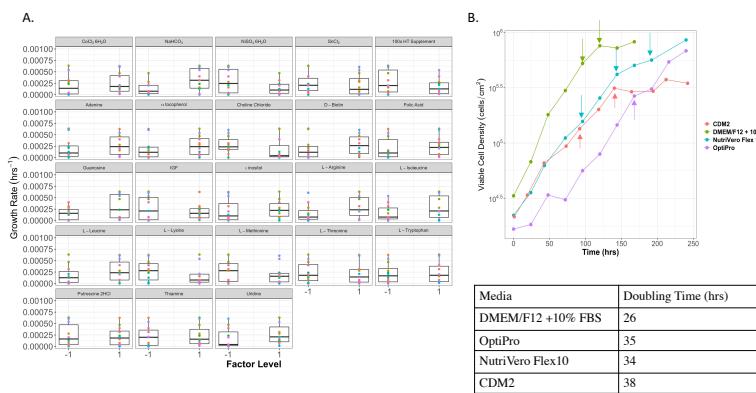
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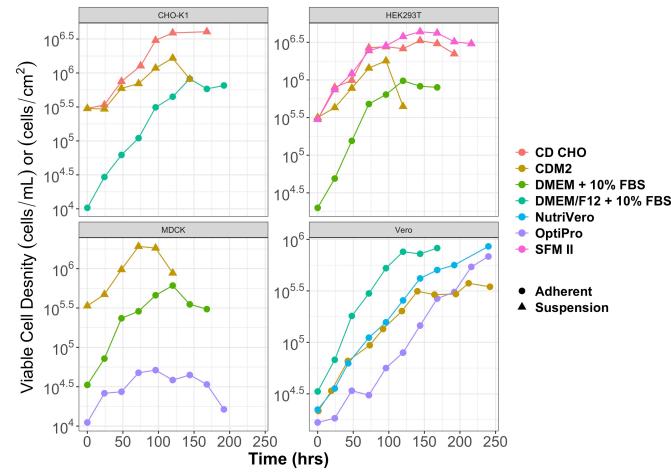
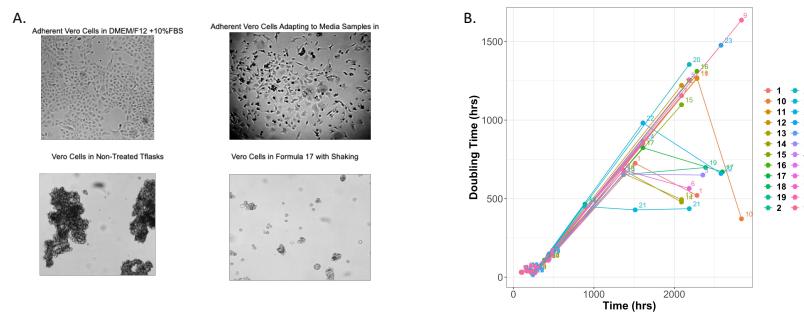
Abstract

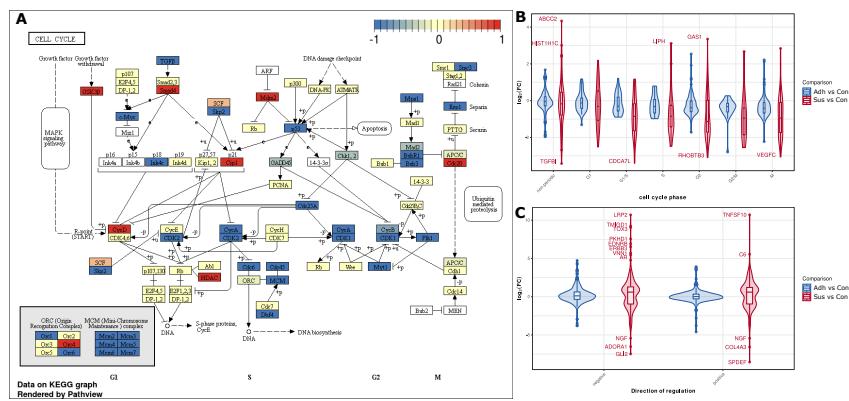
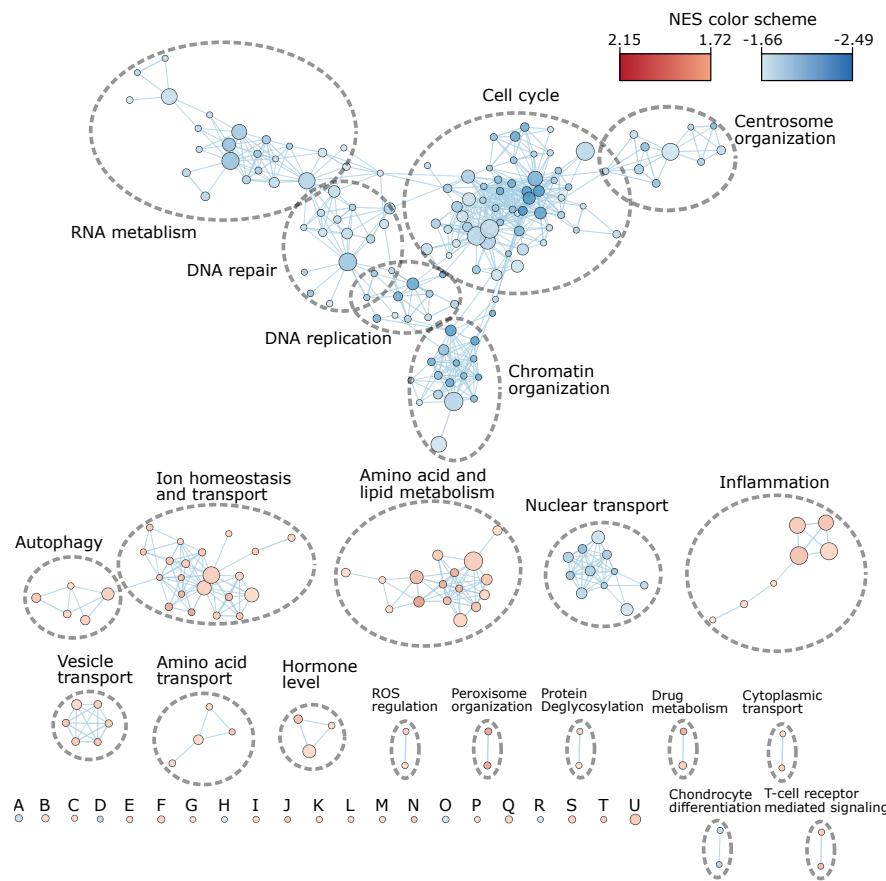
In this study, a chemically defined, animal component-free media was developed to promote Vero growth in suspension. Key media compounds were screened using Plackett-Burman styled experiments to create a media formulation to support suspension growth. Vero cells remained viable in suspension, but their growth rate was extremely low, conversely, other cell types such as CHO-K1, MDCK and HEK293T were able to grow in single cell suspension in the same media. To investigate the slow growth of Vero cells, RNA-Seq analysis was conducted. Vero cells were cultured in three different conditions: adherently in serum-containing medium, adherently in in-house medium, and in suspension in low calcium and magnesium in-house medium. This study illustrates that adherent cells maintain similar gene expression, while the suspension phenotype tends to overexpress genes related to renal tubules.

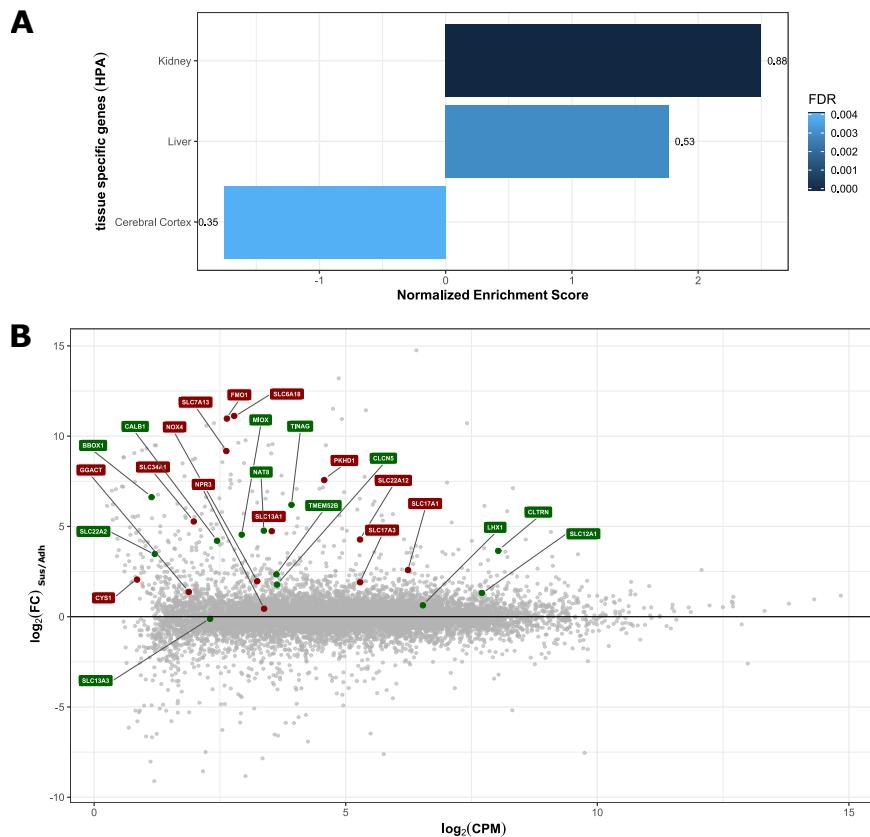
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