**Lay Summary Report**

*Publications*

R. Kondapaneni‡, L.A. Shevde, S. S. Rao (2023). A biomimetic hyaluronic acid hydrogel models mass dormancy in brain metastatic breast cancer spheroids. Advanced Biology. 7(1):e2200114. R. Kondapaneni‡, R. Warren†, S. S. Rao (2022). Low dose chemotherapy induces a dormant state in brain metastatic breast cancer spheroids. AIChE Journal. 68(12):e17858. (Invited article, Futures Issue 2022).

 *Publications to be submitted:*

 R. Kondapaneni‡$, S. K. Gurung#$, L.A. Shevde, S. S. Rao (2023). A protocol to generate dormant brain metastatic breast cancer spheroids in vitro. STAR Protocols. In Preparation. ($denotes equal contribution)

 - Funding support obtained with METAvivor data if any, and goal of the support We have not yet obtained funding support with METAvivor data; however, we have recently submitted an NIH R01 application that included data generated using METAvivor funds.

 - Summary of important findings We developed a hydrogel-based in vitro model to study dormancy in brain metastatic breast cancer cell clusters. This model could serve as an important tool to study how the microenvironment regulates dormancy in metastatic cancer cell clusters, identify associated pathways, and ultimately opportunities for tumor targeting.

- Clinical relevance of findings i.e., upcoming/in progress trials, impact on MBC treatment (now or future) Ultimately, if we identify pathways mediating tumor progression, this may enable new tumor targeting strategies (i.e., new drug combinations targeting the pathways identified) thereby eventually enabling translation of these findings to the clinic.