**miRNA experiment details**

**PART 1a**

Cells:

PC3 prostate cancer cell were engineered to express

GFP (control)

Cavin-1 (labelled as CAV1)

Cavin-2 (labelled as CAV2)

Cavin-3 (labelled as CAV3)

Expression of each cavin protein leads to reduced proliferation and tumorigenicity – published for Cavin-1, unpublished for Cavin-2 and Cavin-3.

Hypothesis: All 3 cavins suppress PC3 cell growth via the same pathways. In this experiment, we evaluate miRNA.

Experiment: miRNA was prepared from each cell line, in biological triplicates (labelled by date). Library was prepared, multiplexed and analysed by RNAseq.

Analysis: Find the miRNAs similarly significantly regulated by all 3 cavins.

**PART 1b**

What are the predicted mRNA targets of these cavin-regulated miRNA? Can they explain the mechanism of tumour suppression?

**PART 2**

The same experiment was performed on a non-cancer HEK cells (human embryonic kidney), which also do not express caveolin-1 (unlike PC3). Question – do cavins still regulate the same miRNAs in non-cancer cells?

HEK cells don’t express caveolin 1

Does cavin 1 regulate the same miRNA in the HEK cells?

Cavin 1 = PTRF