**A zebrafish screen for chemicals to delay chronic kidney disease**

Alport syndrome (AS) is caused by mutations in a specific type of collagen that is essential for the blood filtering function of the kidney. Whilst AS is a relatively rare condition, affecting 1 in 10,000 of the population, the defects in the blood filter that are associated with AS (and which lead to protein leakage into the urine (proteinuria)) are common pathologies observed in patients with Chronic Kidney Disease (CKD). The prevalence of moderate to severe CKD in England is predicted to be ~6.1% of the 16 years or older population. Given this, there is an urgent need to develop new therapies that will impact the health of patients and relieve the cost burden of CKD to the health service.

We have generated collagen mutants that replicate the human AS condition in the zebrafish. Comparison of the blood filters in human and zebrafish kidneys shows they are highly similar, making the zebrafish an excellent model with which to study AS. We aim to utilise the high fecundity and low maintenance costs of the zebrafish system to perform a high throughput drug screen. Using proteinuria as a readout, we will test 978 chemical compounds that are already approved for use in humans to determine if they are able to preclude or delay the onset of proteinuria. This will reveal potential new therapies that can be used to impact patients with AS and will also provide new insight into the causes of the blood filter defects associated with AS.