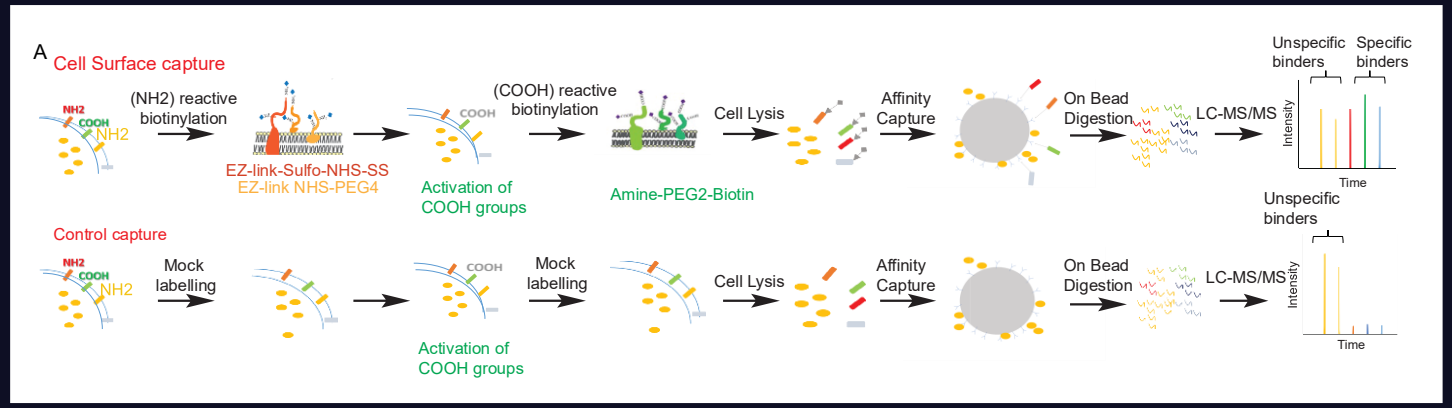
Surfaceomics - target discovery platform in solid and haematological cancers

Technology Overview

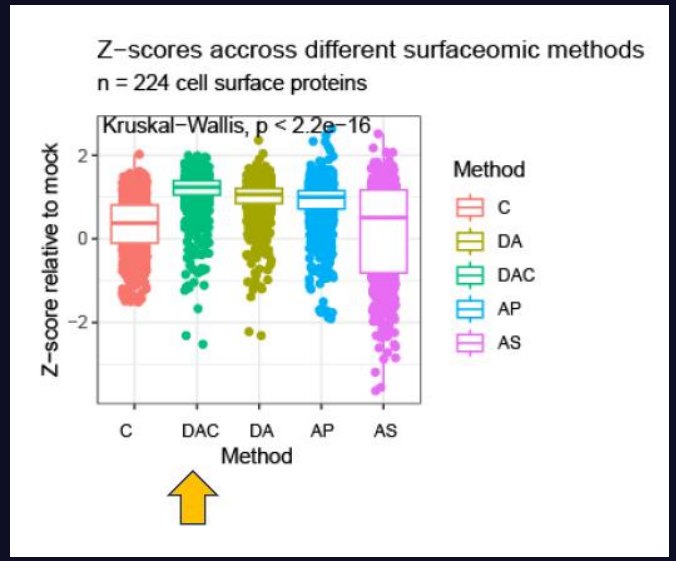
- The success of new TCE, ADC and CAR-T therapies depends on the identification of tumour surface antigens (TSAs) at sufficiently high density on cancer cells and sufficiently low density in untransformed tissue.



- This new double amine plus carboxyl (DAC) method circumvents the limitations of current techniques based on single biotin derivatisation of the cell surface proteome, targeting surface antigens only and not cytosolic proteins. It can also identify targets from a relatively small number of cells (less than 2M vs >10M), thus allowing target identification in primary tumour tissue.

Key Data

- Data reflects the superior efficacy of DAC versus other current approaches in capturing a larger, more abundant and diverse set of surface proteins than standard methods.
- Extensive validation of DAC on cryopreserved and low-input specimens in colorectal cancer, breast cancer and hepatocellular carcinoma cell lines, mouse pancreatic ductal adenocarcinoma tissue and human breast cancer samples: DAC shown to outperform standard methods and could be applied to a variety of clinically relevant samples.
- Preliminary application of the approach in acute myeloid leukaemia (AML) tissue revealed known targets (e.g. CD33 & CD96) as well as novel targets, being investigated further. Breast cancer targets have also been identified using the DAC method, pending analysis.



Commercial

- Priority patent application filed in February 2024. Seeking licence or collaboration partners.