Multi-Omics Profiling of Extracellular Vesicles in Drug-Treated CRC Cells

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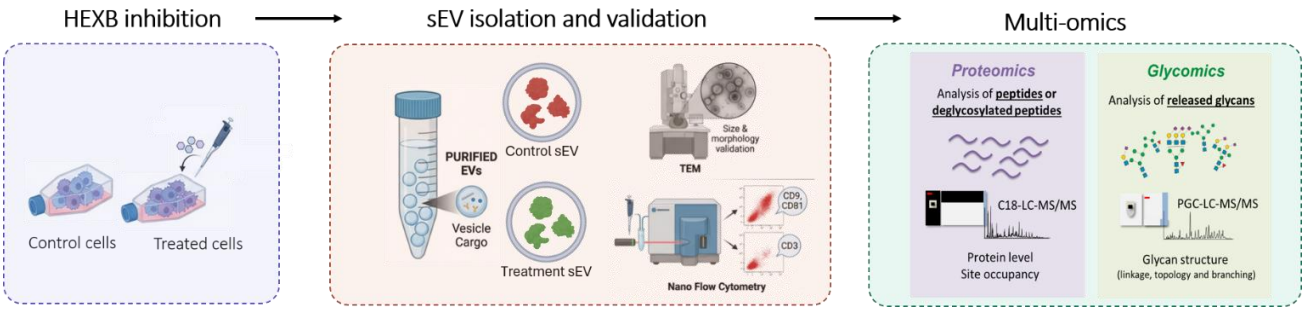
Background

Colorectal cancer (CRC) remains a leading cause of cancer-related mortality, with aberrant glycosylation contributing to tumour progression. We previously showed that elevated plasma hexosaminidase B (HEXB) is associated with poor five-year survival in advanced CRC. Building on these findings, we found that pharmacological HEXB inhibition suppresses key tumorigenic traits, including proliferation, invasion and metastasis, with particularly strong effects in the presence of M2 macrophages. Secretome proteomics further indicated altered extracellular vesicle (EV) biogenesis and cargo. Given the central role of EVs in cell communication, we therefore aim to investigate HEXB-dependent remodelling of the EV proteome and glycome.

Methods



Results

HEXB inhibition produces a functionally distinct EV population with altered protein cargo and glycosylation.