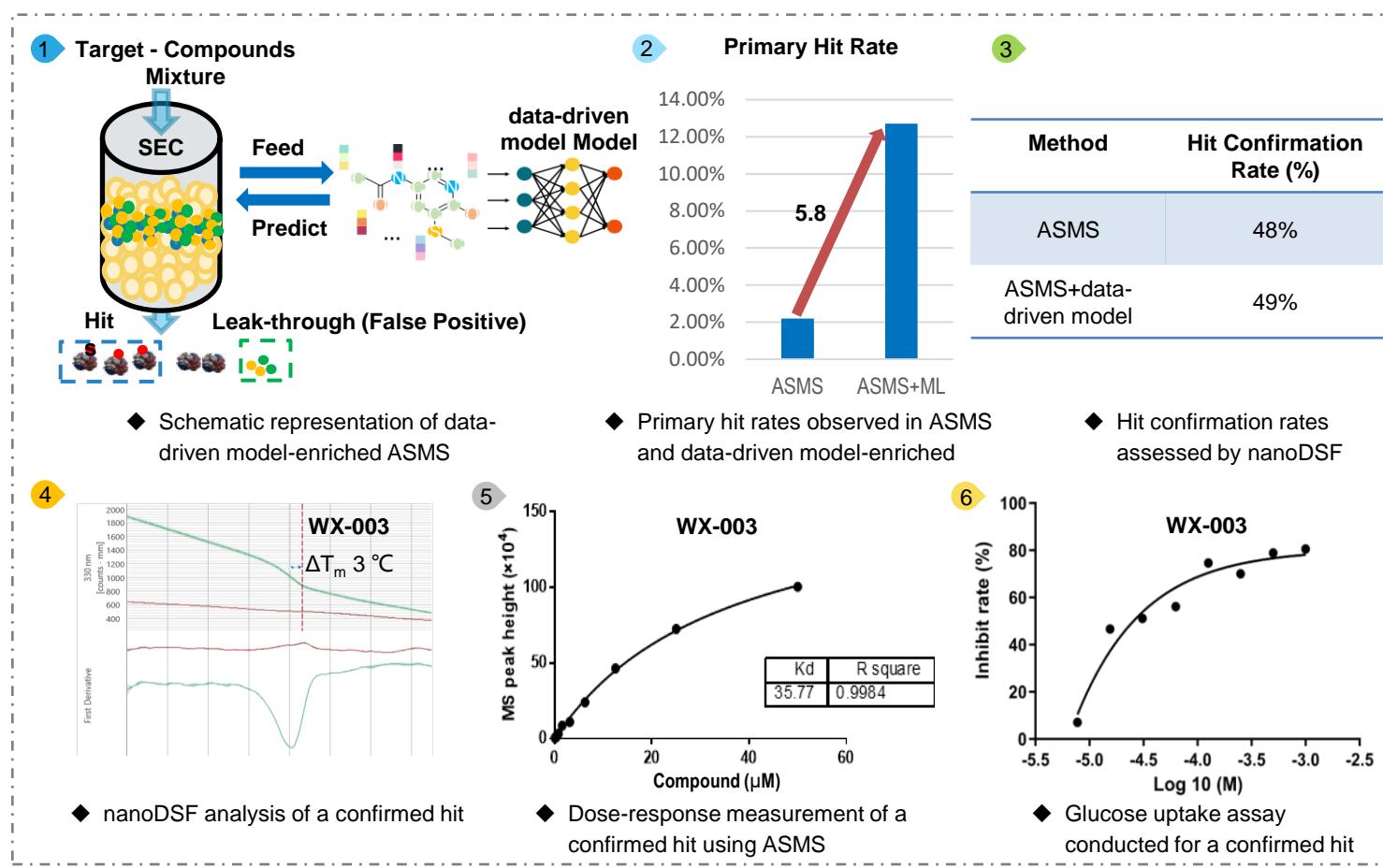


Affinity Selection Mass Spectrometry (ASMS) — Adaptable Screening on Membrane Protein GLUT1

Abstract: GLUT1 serves as the conduit for transporting glucose from the extracellular milieu into the cell, thereby fueling cellular physiological activities via glucose metabolism. Its overexpression has been documented in various tumor cells, establishing GLUT1 as a promising therapeutic target. During an ASMS screening of GLUT1, a counter screening had been introduced to effectively mitigate false positives arising from surfactants in the protein buffer, and ASMS integrates Data-driven model, resulting in a 5.8-fold enhancement in screening efficiency which shorten the process of the screening scope while concurrently reducing costs. Through this strategy, GLUT1 binder had been identified with a K_d of 35.7 μM while inhibits cellular glucose transport activity with an IC_{50} of 2.3 μM .

Application of Data-driven Model-enriched ASMS for Hit Discovery Targeting the Membrane Protein GLUT1



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