

癌症新藥發展：從訊號調節到代謝治療

Paradigm Shift in Cancer Drug Development: From Signal Modulation to Metabolic Intervention

Cancer therapy faces persistent challenges of drug resistance and relapse. I present three innovative approaches that illustrate a paradigm shift in the development of drugs. First, we uncovered a dual-specificity kinase activity in HER2, where GTP-driven serine phosphorylation promotes cancer stemness and resistance, highlighting the need for dual inhibition. Second, a novel nucleic acid therapeutic targeting DDB2 impairs DNA repair, sensitizes tumors to chemotherapy, and shows single-agent efficacy. Third, inhibition of GLUT3 exposes a metabolic vulnerability that suppresses tumor progression. Together, these strategies integrate signal modulation, nucleic acid medicine, and metabolic targeting, offering new directions for refractory solid tumors.