IN VITRO AND IN VIVO ACTIVITY OF SNS-595, A NOVEL CELL CYCLE INHIBITORY CYTOTOXIC IN MURINE SYNGENEIC AND HUMAN XENOGRAFT TUMOR MODELS

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ABSTRACT #3840
Although multiple chemotherapeutic and targeted therapies show promising results in the clinic, there is a need for novel therapeutic strategies, given the resistance that occurs in individual patients. SNS-595 is a novel, dual cyclin-dependent kinase (CDK) inhibitor that blocks CDK6 and CDK4, which are known to be key effectors of G1-S transition. It is currently undergoing Phase I clinical trials for the treatment of cancer.

BACKGROUND
SNS-595 is a potent, orally bioavailable, small molecule that selectively inhibits CDK6 and CDK4 and is being evaluated in a broad range of tumor types, including breast cancer, colorectal cancer, and ovarian cancer. Preclinical studies have demonstrated strong anti-proliferative and pro-apoptotic activity in vitro and in vivo.

METHODS
SNS-595 was evaluated in vitro in a panel of cancer cell lines and in vivo in a variety of tumor xenograft models. Pharmacokinetic and toxicological studies were conducted to support clinical development.

RESULTS
SNS-595 potently inhibited cell proliferation in vitro and induced apoptosis in multiple tumor cell lines. In vivo, SNS-595 showed significant anti-tumor activity in various xenograft models, including breast, colorectal, and ovarian cancer models. The drug showed favorable pharmacokinetic profiles and demonstrated a good margin of safety.

CONCLUSIONS
SNS-595 is a promising anti-cancer agent with potent in vitro and in vivo anti-proliferative and pro-apoptotic activity. Future clinical trials are anticipated to further evaluate its efficacy and safety in the treatment of various cancer types.