Dual Inhibitors of MNK1/2 and p706SK as Potent Anticancer Drugs for Solid Tumors

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- Pharmaceuticals

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- Kinase inhibitor
- MNK
- Oncology
- p70S6K
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Researchers at Purdue University have designed molecules to concurrently inhibit two proteins important in tumorigenesis, MNK1/2 and p706SK. Pharmaceutical companies have pursued MNK1/2 and p706SK as individual targets; however, drugs targeting these proteins performed poorly as monotherapies. By inhibiting both MNK1/2 and p706SK with a single molecule, the Purdue researchers' orally bioavailable compounds potently inhibit several solid tumor cancer cell lines, including breast, ovarian, lung, and colon cancer cells.

Technology Validation: At 200 nM, one of the drugs designed by the researchers completely inhibited the growth of Caki-1 (renal cancer) and MDA-MB-231 (breast cancer) cells. Compounds were tested against the NCI-60 cell line panel.

Advantages
- Targets two oncogenic proteins with a single molecule
- Effective against multiple solid tumor cell lines
- Orally bioavailable

Applications
- Anticancer drugs

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Intellectual Property:

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