In Vivo Active Inhibitors of FOXM1 for Suppression of Cancer

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Technology description

Triple Negative Breast Cancer (TNBC) constitutes about 10-20% of all diagnosed breast cancers and is known to be more aggressive and difficult to treat. TNBC lacks the three most common types of receptors: estrogen receptor (ER), progesterone receptor (PR) and HER2 receptor. There is a great need to find therapies targeted against TNBC due to the challenge it presents. The transcription factor, FOXM1, is implicated in several types of cancers including breast ??? its inhibition affects many important downstream targets essential in cancer. However, there are no effective compounds with in vivo activity against FOXM1. A group of investigators from the University of Illinois at Urbana-Champaign, led by Dr. John Katzenellenbogen, have developed novel FOXM1 inhibitors that have shown activity against cancer and may be a potential therapeutic for TNBC. They first developed a fluorescent probe for screening FOXM1 inhibitors and, furthermore, synthesized novel compounds that have demonstrated good bioavailability both orally and subcutaneously. Studies in mice have shown suppression of breast tumor growth and inhibition of Tamoxifen-resistant breast cancer cell proliferation.

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