

## Technology information form

Technology title
New compounds showing cell cycle gene regulation, with implications for new cancer therapies
One sentence description of technology
Two new compounds having HDAC (histone deacetylase) inhibition capability have shown the effect of inducing re-differentiation of human brain and breast cancer cells both <i>in vitro</i> and <i>in vivo</i> .
Development status
Early stage <input type="checkbox"/> Preclinical <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II <input type="checkbox"/> Phase III <input type="checkbox"/> Phase IV <input type="checkbox"/> <input type="checkbox"/> Preregistration <input type="checkbox"/> Registered <input type="checkbox"/>
Full description (Less than 400 words)
<p>Two lead compounds both with a small molecular weight were semi-synthesized from natural ingredients.</p> <p>The first compound, denoted as NBM-TP-007-GS-002, is a prenylflavanone and was found to be a new HDAC inhibitor, capable of inducing differentiation and inhibiting the growth of rat c6 glioma, human glioblastoma, and human breast cancer cells both <i>in vitro</i> and <i>in vivo</i>. This compound affected many cell-cycle regulating genes such as p21, p27, cyclin B1, and cyclin D1. The compound was also found to increase the survival of rat cortical neurons and enhance their neurite outgrowth significantly. The molecular weight of the lead compound is 584 Da.</p> <p>The second compound, designated NBM-B-OS05, and with a molecular weight of 435 Da, is a coumarin derivative. This compound is also a new HDAC inhibitor, capable of efficiently inhibiting growth and inducing differentiation of several different cancer cell types.</p> <p>These new HDAC inhibitors have shown potential to induce the arrest of growth as well as induce differentiation in transformed cells. Inhibition of HDAC activity would</p>

lead to relaxation of the chromatin structure, which affects gene expression or suppression and results in the growth arrest of tumor cells. These compounds have shown to be excellent candidates for new drugs for the treatment of both brain and breast cancers.

Patent status and no.

Patent documents for NBM-TP-007-GS-002 and NBM-B-OS05 have been filed in the US, EU, Japan, Taiwan, China, and Australia

Type of business relationship sought

Licensing or partnering

Licensing contact

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More information available on the web (company website)

<http://www.naturewise.com.tw/>