



Browse > Home / cancer / Germans search for new anti-cancer drugs from TCM

Germans search for new anti-cancer drugs from TCM

CM NEWS – A group of German scientists launched a systematic compound search in 76 Chinese medicinal plants that are believed to be effective against malignant tumours and other growths. The success rates so far are satisfactory.

Curing cancer with natural products – a case for shamans and herb women? Not at all, for many chemotherapies to fight cancer applied in modern medicine are natural products or were developed on the basis of natural substances.

For instance, taxanes used in prostate and breast cancer treatment are made from yew trees. The popular periwinkle plant, which grows along the ground of many front yards, is the source of vinca alkaloids that are effective, for example, against malignant lymphomas. The modern anti-cancer drugs topotecan and irinotecan are derived from a constituent of the Chinese Happy Tree.

In his search for active ingredients, Professor Dr. Thomas Efferth of the DKFZ has been concentrating on herbal remedies from traditional Chinese medicine with particularly well documented application range. Working together with colleagues in Mainz and Düsseldorf, Germany, Graz, Austria and Kunming in China, he launched a systematic compound search in 76 Chinese medicinal plants that are believed to be effective against malignant tumours and other growths. First results of this study have now been published.

Extracts from 18 of the plants under investigation were found to substantially suppress the growth of a cancer cell line in the culture dish. "With this success rate of about 24%, we are way above the results that could be expected from searching through large chemical substance libraries," Thomas Efferth explains.



The scientists proceeded to chemically separate, step by step, all active extracts, tracing the active component after each separation step by cell tests. The chemical structure of the compounds is analyzed using nuclear magnetic resonance and mass spectroscopy. "We are combining natural substance research with advanced analytical and molecular-biological methods", Efferth explains.

"Plant constituents that seem particularly promising are immediately subjected to further tests." Such constituents include, for example, substances derived from the Rangoon

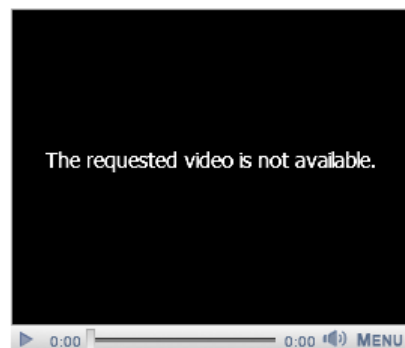
Creeper, an ornamental plant with red flowers, or from Red-Root Sage. The latter contains three ingredients with powerful anti-tumour activity. The substances were found to suppress the growth of a specific tumour cell line that is particularly resistant to many commonly used cytotoxins due to overproduction of a transport protein in the cell wall. In contrast, a whole range of standard anti-cancer drugs fail to be effective against this cell.

FEATURED LINKS

Liposuction
San Francisco Acupuncture

- ★ Acupuncture eases chronic low back pain
- ★ €1 million EU funding for Chinese medicine research
- ★ Ginseng is nature's anti-inflammatory

LATEST HEALTH VIDEO



CATEGORIES

- ★ acupuncture
- ★ aging
- ★ alzheimers
- ★ arthritis
- ★ asthma
- ★ back pain
- ★ bone
- ★ bowel
- ★ cancer
- ★ cardiovascular
- ★ catpillar fungus
- ★ cholesterol
- ★ cold & flu
- ★ dementia

What is Rangoon Creeper? It is also known as the Chinese honeysuckle. It is a creeper with red flower clusters and is found in Asia. It is found in many other parts of the world either as a cultivated ornamental or run wild. Other names for the plant include quiscual (in Spanish), niyog-niyogan (in Filipino), Madhu Malti or Madhumalti (in Hindi).

The Rangoon Creeper is a ligneous vine that can reach from 2.5 meters to up to 8 meters. The leaves are elliptical with an acuminate tip and a rounded base. They grow from 7 to 15 centimeters and their arrangement is opposite. The flowers are fragrant and tubular and their color varies from white to pink to red. The 30 to 35 mm long fruit is ellipsoidal and has five prominent wings. The fruit tastes like almonds when mature. The niyog-niyogan is usually dispersed by water. Rangoon Creeper is found in thickets or secondary forests of the Philippines, India and Malaysia. It has since been cultivated and naturalized in tropical areas.

The plant is mainly used for traditional medicine. Decoctions of the root, seed or fruit can be used as antihelmintic or for alleviating diarrhea. Fruit decoction can also be used for gargling. The fruits are also used to combat nephritis. Leaves can be used to relieve pain caused by fever. The roots are used to treat rheumatism.

"We can expect to find many interesting, yet unknown working mechanisms among the chemically highly diverse natural substances. Currently, we are aligning the effectiveness of the substances on 60 different cancer cell lines with the gene activity profiles of these cells. Thus, we can determine the exact gene products that are the cellular targets of our compounds. Thereby, it may be possible to discover whole new Achilles' heels of the cancer cell," said Efferth describing the next steps.

Looking for new compounds, doctors and scientists are increasingly focusing on substances from plants used in traditional medicine. About three quarters of the natural pharmaceutical compounds commonly used today are derived from plants of the traditional medicine of the people in various parts of the world. The chances of finding new substances with interesting working profiles in traditional medicinal plants are better than in common-or-garden botany. The task of the Deutsches Krebsforschungszentrum in Heidelberg (German Cancer Research Centre, DKFZ) is to systematically investigate the mechanisms of cancer development and to identify cancer risk factors. The findings resulting from basic research are expected to lead to new approaches in the prevention, diagnosis, and treatment of cancer. Funding is provided by the Federal Ministry of Education and Research (BMBF; 90 percent) and by the State of Baden-Wuerttemberg (10 percent). The German Cancer Research Centre is a member of the Helmholtz Association of National Research Centres (Helmholtz-Gemeinschaft Deutscher Forschungszentren e.V.).

[Molecular Cancer Therapy 7 (1) 2008, page 152]

- ☆ depression
- ☆ diabetes
- ☆ dietary
- ☆ digestive
- ☆ drug alert
- ☆ flu
- ☆ ginseng
- ☆ headache
- ☆ healthy eating
- ☆ hepatitis
- ☆ hypertension
- ☆ immunity
- ☆ infertility
- ☆ kidney
- ☆ lingzhi
- ☆ liver diseases
- ☆ lupus
- ☆ meditation
- ☆ men
- ☆ menopause
- ☆ mental health
- ☆ migraines
- ☆ obesity
- ☆ pain
- ☆ pregnancy
- ☆ prostate
- ☆ qigong
- ☆ Recent
- ☆ respiratory
- ☆ sex
- ☆ skin
- ☆ sleep
- ☆ soy
- ☆ stomach
- ☆ stroke
- ☆ tai chi