Possible applications of traditional Chinese medicine in cancer treatments have been identified thanks to EU-funded research. The research team targeted some 100 compounds exhibiting potential anticancer activity. These are now being assessed through further research.

In a relatively short space of time, the TCMCANCER project, which was completed in February 2013, has achieved notable success.

“Over one hundred compounds exhibiting anticancer activity in several cancer cell lines have been identified,” says project coordinator André Steinmetz, a consultant at the Laboratory of Cellular and Molecular Oncology at Luxembourg’s Centre de Recherche Public de la Santé (CRP-Santé). “Further research is now ongoing to determine their activities in experimental animal models and to assess their use in cancer treatments.”

Reassessing cancer treatment

The project identified novel lead compounds from medicinal plants with potential use in cancer chemotherapy. “Most if not all of the drugs used in cancer chemotherapy have serious side effects, which can affect healthy cells as well as essential body functions,” explains Steinmetz. “Therefore, the search for and study of novel compounds that specifically kill cancer cells but lack side effects is still necessary.”

The project focused on identifying and characterising a set of lead therapeutic compounds against breast, lung and brain cancer, based on current knowledge from traditional Chinese medicine. This traditional medicine has a holistic and synergistic approach – in other words, it doesn’t just treat the malady, but also addresses the body’s health as a whole.

The most common therapies used in traditional Chinese medicine include the use of plants such as herbs, mushrooms and roots, and some manual therapies like acupuncture and massage. Common
therapies used on cancer patients include herbal medicine.

“This has been found to be very effective in dealing with complex medical problems,” says Steinmetz. “However, the exact composition of these compounds that exert these therapeutic effects is not yet fully understood.”

This is why Steinmetz and his colleagues were interested in bringing in researchers from outside the EU to offer a fresh perspective.

The project focused on the isolation and characterisation of chemical compounds from traditional Chinese medicine that have been shown to demonstrate tumour-fighting properties.

In China today, almost three quarters of cancer clinical trials involve a combination of traditional medicine therapy and conventional cancer treatment. From this library of available therapeutic compounds, the project team set out to identify the key therapeutic substances, using high tech screening technologies in appropriate preclinical cancer models.

See also:
CORDIS [2]

Project:
Traditional Chinese medicine in the post-genomic era: identifying lead therapeutic compounds against cancer

Project Acronym:
TCMCANCER

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