Blackberry extract shows anti-tumour promise

By staff reporter

9/21/2006 - An extract derived from fresh blackberries has been seen to reduce cancerous tumours and prevent the proliferation of cancer cells in animal models, paving the way for further investigations into how it could be used to support human health.

Although fruit and vegetables have long been associated with a lower incidence of cancer, an effect attributed to the anti-free radical activity of antioxidants, researchers from the US Agricultural Research Service and the National Institute for Occupational Safety and Health said: "Little is known about the active ingredients in these antioxidants and how these components exert their effects on the inhibition of cancer growth."

The researchers, led by cell biologist Min Ding and plant physiologist Shilow Wang, identified the water-soluble flavonoid cyanidin-3-glucoside (C3G) as the active compound responsible for blackberries' antioxidant benefits.

According to a communication from the ARS, the compound, which has been isolated and has a patent application pending, "may one day become a key natural ingredient in new products formulated for their anti-cancer properties".

Ding and Wang set about testing the anti-cancer potential of C3G, and their findings were published in the *Journal of Biological Chemistry* in June (Vol. 281, Issue 25, 17359-17368).

First, they tested the C3G on a group of mice that had skin tumours. In the mice that received the C3G supplement, they observed a significant reduction in the growth and spreading of tumours compared to those that did not.

They also looked at its effect in lung-cancer cells of immune-suppressed mice; lung cancer is more likely than other forms of the disease to spread to other organs. However they observed that the C3G reduced growth of the cancer cells in the mice, and inhibited their spread.

As to the mechanisms of the compound's cancer inhibition the researchers put it down to its controlling effect over free radicals, also known as reactive oxygen species, which are responsible for activating molecular signals that initiate and promote cancer.

"These findings demonstrate for the first time that a purified compound from blackberry fruit could inhibit tumor promoter-induced cancer growth in mice and pave the way for additional investigations on the mechanisms of how fruits and vegetables promote health benefits in human," wrote the authors in their interpretative summary. "This research is helpful to other scientists and useful to consumer industry and consumers."

*Copyright - Unless otherwise stated all contents of this web site are © 2000/2006 – Decision News Media SAS – All Rights Reserved. For permission to reproduce any contents of this web site, please email our Syndication department: contact our Syndication department. Full details for the use of materials on this site can be found in the Terms & Conditions.*

contact the editor