Medical Xpress

Whole black carrots reveal the key to gut health, reduced cancer risk

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Black carrots have revealed how fruit and vegetables help maintain gut health and reduce the risk of developing cancer.

The antioxidant compounds they contain combine with fibre to play an important role in protecting the colon from cancer, Dr Anneline Padayachee from the University of Queensland has discovered.

The compounds, known as polyphenols, are released from the plant cell

during chewing. However, Anneline found that the majority of polyphenols are bound to fibre during this process. She found they were not free for absorption until they reached the colon in the final stages of digestion.

"Black carrots—which are actually deep purple—are packed with polyphenols similar to those which give blueberries and red wine their vivid colour. Anneline's work showed that these compounds became bound to the fibre during chewing and remained bound throughout digestion in the stomach and small intestine.We discovered that fibre not only works as a 'bowel scourer', but is also able to safely traffic polyphenols to the colon, where they are involved in gut health protective mechanisms," Anneline said.

Bacteria in the gut finally break down the fibre-bound polyphenols before the fibre itself is excreted. Products resulting from digested polyphenols then protect the colon from cancer.

"So, to gain the benefits of polyphenols, you need to consume everything – the whole vegetable or fruit, including the fibrous pulp if you're juicing it. Not only will you have a clean gut, but a healthy gut full of protective polyphenols."

Anneline hopes her work might also help uncover medicinal uses for plant fibre in targeted treatments of dietary conditions.

She worked on this research project with the ARC Centre of Excellence in Plant Cell Walls, the Centre for Nutrition and Food Sciences at the University of Queensland and CSIRO.

Anneline Padayachee is one of 12 early career scientists unveiling their research to the public for the first time thanks to Fresh Science, a national program sponsored by the Australian Government.

An example of Anneline's published work is online here: www.sciencedirect.com/science/ … ii/S03088146120027 01

Provided by University of Queensland

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