

# The Queensland Institute of Medical Research

## New era of personalised medicine for bowel cancer

Bowel cancer affects one in 23 Australians in their lifetime, and half of these patients will succumb to their disease. Chemotherapeutic options for advanced disease have expanded in recent years, however no biomarkers have been available to inform choice of therapy – until now.

Dr Vicki Whitehall and Professor Barbara Leggett of the Conjoint Gastroenterology Laboratory at the Queensland Institute of Medical Research have co-developed a molecular test for the K-ras oncogene, which will be used by oncologists to determine the optimal therapy for patients with advanced bowel cancer.

Cetuximab (marketed in Australia by Merck Serono as Erbitux®) is a monoclonal antibody therapy which blocks growth factor binding to the epidermal growth factor receptor. This receptor is the gateway to a number of molecular pathways which regulate the ability of cancer cells to grow and relocate in the body, critical processes in the spread of cancer.

K-ras is an oncogene which functions downstream of this receptor. When mutated, K-ras can bypass the action of Cetuximab, communicating with cancer cells to continue to grow.

Recent clinical trials have shown that patients with a mutation in the K-ras gene will not respond to Cetuximab. However, if K-ras is not mutated, significant response is observed when the drug is administered in combination with standard

chemotherapy (FOLFIRI).

“This marks a significant advance in the treatment of advanced bowel cancer, not only for the 60 percent of patients whose cancer does not have a mutation in K-ras, but also for the remaining patients who will be offered an alternate therapy more likely to work,” said Dr Whitehall.

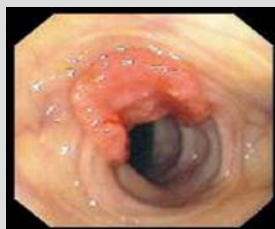
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*A Healthy Bowel*



*Pre cancerous Polyps*



*Bowel Cancer*

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For further information on this and other research at QIMR, visit the website [www.qimr.edu.au](http://www.qimr.edu.au) or telephone toll-free 1800 993 000.

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