

# New potential for personalized treatments in bowel cancer

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Scientists have found that genetic changes in bowel tumours are linked to the way the body's immune system responds to the cancer, according to research published today in the journal *Oncoimmunology*.

For the first time, Cancer Research UK researchers at the University of Birmingham have found that certain genetic flaws in [bowel cancer](#) are more likely to trigger an [immune response](#) at the site of tumours, meaning that treatments to boost this immune response further could potentially be helpful for these patients.

Finding out what's happening in a cancer patient's [immune system](#) can be difficult and takes time. These findings suggest that genetic profiles of patients' tumours could be used as an easy and fast way of diagnosing whether they are suitable for immunotherapy treatments, and if so which ones.

Cancer Research UK's FOCUS4 trial is already using the genetics of bowel cancer to offer patients stratified medicine and this study suggests that we could further expand this work to include immunotherapies.

Gary Middleton, Professor of Medical Oncology at the School of Cancer Sciences at the University of Birmingham, said: "The field of immunotherapy is gaining lots of momentum and this study shows a new finding for bowel cancer. We are already using genetic profiling for stratified medicine in bowel cancer in the FOCUS4 trial. But this research indicates that we could marry immunotherapy with the work we

are already doing to personalise treatment even more."

Researchers used The Cancer Genomic Atlas, a large database, to study this relationship. From this research, scientists can now start looking at what causes a weak immune response and in the future, could target drugs to switch off the immune suppression associated with certain genetic mutations.

Nell Barrie, senior science communication manager at Cancer Research UK, said: "This study shows a strong association between certain genetic profiles and immune responses, but we don't yet fully understand this link. Further research to investigate the fundamentals behind different immune responses could open new doors in drug development."

Provided by Cancer Research UK

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