

## EU RESEARCH GRANT FOR USING CRISPR-CAS TO TREAT CANCER

**The European Research Council (ERC) has awarded a 'Proof of Concept' grant to the microbiologist John van der Oost. He is getting 150,000 euros to explore the options for practical application of CRISPR-Cas in treating liver cancer.**

Van der Oost and the 12 other Dutch grant recipients received a research grant from the ERC a couple of years ago and are now getting the Proof of Concept money to explore 'the commercial or social potential' of their research.

Van der Oost and postdoc Christian Südfeld have been given the grant for the project *DeLIVER: Epigenome-Sensitive CRISPR Therapy for Hepatocellular Carcinoma*, in which they will investigate whether a CRISPR-Cas gene cutter can be used as gene therapy in patients with liver cancer. 'We are looking at whether we can disable cancer cells while leaving the healthy cells intact.' The ultimate aim is to develop a new kind of cancer therapy.

### CUTTING CANCER CELLS TO SHREDS

The enzyme ThermoCas9 can be programmed to look for a specific gene in the DNA. 'The interesting thing about ThermoCas9 is that it is sensitive to methylated DNA. The enzyme can't make cuts in healthy cells because there is a methyl group at the binding site, but that methyl group is missing in a certain type of liver cancer. That means our CRISPR enzyme can cut the DNA of those cancer cells to shreds, which will hopefully kill off that type of cancer cell.'

The grant of 150,000 euros will let Van der Oost and his colleagues do experiments for about 18 months. 'It's a step towards increasing our knowledge. That will let us start collaborations with cancer specialists in other institutes, secure a larger grant and possibly even establish our own start-up.' If the concept does turn out to be successful in treating cancer, it will be some while before patients can be treated in this way in large numbers. DV