**New study creates first 3D vision of cancer target**

Posted by [ap507](http://www2.le.ac.uk/author/ap507) at Jan 25, 2016 12:05 PM | [Permalink](http://www2.le.ac.uk/offices/press/press-releases/2016/january/new-study-creates-first-3d-vision-of-cancer-target)

‘This basic research set the grounds for structure-based drug design approaches that could be beneficial for cancer treatments' - Dr Cyril Dominguez, University of Leicester

**Issued by University of Leicester Press Office on 25 January 2016**

**Figure showing structural details of dimerization and RNA binding of T-STAR STAR domain:** [**https://www.dropbox.com/sh/kziimp8jl3hlr9k/AABDv2erM3qyiKt\_rdXZWm3Za?dl=0**](https://www.dropbox.com/sh/kziimp8jl3hlr9k/AABDv2erM3qyiKt_rdXZWm3Za?dl=0)

A team from the University of Leicester has for the first time published a detailed description of a protein linked to many types of cancer.

The lab-based study from the Department of Molecular and Cell Biology now provides an opportunity for scientists to develop drugs to target this protein.

Dr Cyril Dominguez who led the work at Leicester said: “My research field is structural biology. The proteins that we have studied, called Sam68 and T-STAR, are very similar and overexpression of Sam68 has been shown to correlate with poor prognosis in many types of cancers.

“Our results provide atomic resolution details on how Sam68 binds specifically to its RNA target. Furthermore, we show that Sam68 forms a homodimer that has never been described before and is crucial for its function in RNA splicing.

“This is important because this basic research set the grounds for structure-based drug design approaches. If we can identify or design drugs that bind specifically at the dimerization interface, we will be able to prevent the function of these proteins in cells, which could have implications for novel cancer treatments.

“Now that we have a high-resolution structure of Sam68 and T-STAR and a high-throughput binding assay, we are in discussion to collaborate with a major drug discovery consortium to screen a very large library of compounds to inhibit the function of Sam68.”

Dr Dominguez’s work has been published in *Nature Communications*.  He said: “Thanks to an MRC Career Development Award, I started my own research lab in 2010, and we were in competition with other well-established laboratories. This article is therefore the consecration of our hard work during the last five years.”

* The work has been funded by an MRC Career Development Award to Cyril Dominguez (G1000526) that started in October 2010 and finished in September 2015, and a studentship from the College of Medicine, Biological Sciences and Psychology of the University of Leicester. This work is the result of a very fruitful collaboration with the groups of Professor David Elliot (University of Newcastle), Professor Michael Sattler (Helmholtz Zentrum Munchen, Munich) and Professor Ian Eperon (University of Leicester).

It is published here:  <http://www.nature.com/ncomms/2016/160113/ncomms10355/full/ncomms10355.html>

You can also view a copy here: <https://www.dropbox.com/s/lqx5din39hosaps/22-Feracci-NatComm.pdf?dl=0>

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**NOTES TO EDITORS**

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