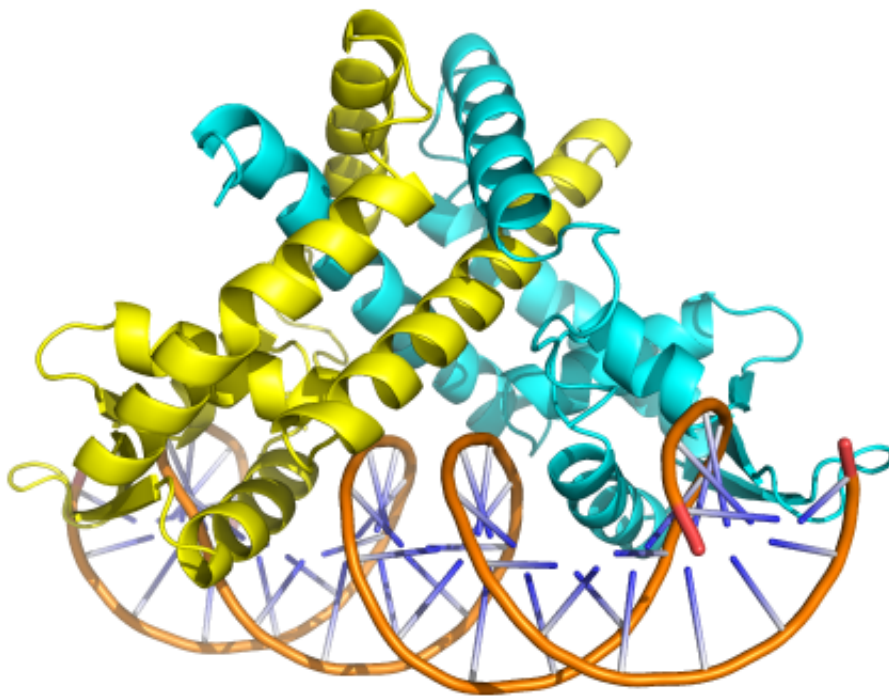


# Research describes new techniques to study protein-DNA interactions

June 10 2013

---



Work undertaken at the John Innes Centre describes new Surface Plasmon Resonance (SPR) protocols to identify and footprint protein-DNA interactions in a cost effective and semi-automated way.

This work, published in *Nucleic Acids Research*, illustrates the

application of these methods by locating specific binding sites for a bacterial transcription factor and accurately defining the protein footprints on the DNA. These observations were then verified by determining the structure of a representative protein-DNA complex using X-ray crystallography.

These new methods will appeal to those investigating protein-nucleic acid interactions as an alternative to traditional methods, such as electrophoretic mobility shift assays and DNase I footprinting.

The SPR protocols are based on an indirect DNA capture method that has been termed ReDCaT (Re-usable DNA Capture Technique). ReDCaT is now being offered as a service by Inspiralis, a company founded in 1995 by John Innes Centre researchers.

**More information:** Stevenson, C. et al. (2013). Investigation of DNA sequence recognition by a streptomycete MarR family transcriptional regulator through surface plasmon resonance and X-ray crystallography, *Nucleic Acids Research*. [nar.oxfordjournals.org/content/41/6/07/nar.gkt523.full](https://doi.org/10.1093/nar/gkt523)

Provided by John Innes Centre

Citation: Research describes new techniques to study protein-DNA interactions (2013, June 10) retrieved 6 July 2024 from <https://phys.org/news/2013-06-techniques-protein-dna-interactions.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.