



SGC



STRUCTURAL GENOMICS CONSORTIUM DEPOSITS 500TH PROTEIN STRUCTURE

Swedish-Anglo-Canadian Partnership Hits Milestone Early Into Second Phase of Operation

6 November 2007, Toronto—The Structural Genomics Consortium (SGC), an international public-private scientific collaboration dedicated to solving three-dimensional structures of proteins of medical relevance, announced today the deposit of its 500th protein structure into the publicly accessible Protein Data Bank (PDB). The milestone confirms the Consortium's status as one of the most successful open-source scientific efforts of its kind in the world today.

"We're proud of the extraordinary efforts our SGC scientists have put forward to achieve this output," says Dr. Aled Edwards, the Consortium's Chief Executive who oversees the project from Toronto. "The 500 structures deposited into the PDB from our three SGC sites represent roughly one-quarter of the new human protein structures in the world over the past two years—impressive by anyone's standards!"

Formed in 2004, the SGC operates from the Universities of Toronto and Oxford (UK), and Karolinska Institutet in Stockholm, employing 165 scientists at the three sites. The SGC's 500th protein structure is known as MDA5, an RNA helicase that is linked to innate and viral immunity. The Consortium's Karolinska group, led by Chief Scientist Dr. Johan Weigelt, was responsible for solving the structure of this important enzyme.

"MDA5 provides one piece of the puzzle towards a detailed understanding of our defense against viruses," explains Weigelt. "The knowledge contained in this structure has the potential to shed light on how our innate immune system detects viral infection."

The discovery of MDA5 underscores a central component of the SGC's work: medical and therapeutic applications. Structures targeted by SGC scientists are selected in advance by an international Scientific Committee, which assesses therapeutic importance and potential impact on human health. This process ensures the SGC's output has the greatest utility; both in the value of the information uncovered for therapeutic development, and in the Consortium's open-access policy—which ensures its findings are immediately placed into the public domain, free for all to use.

This landmark achievement adds to the SGC's growing list of accomplishments. During its first Phase of activity from 2004 to 2007, the Consortium met and exceeded its goal to produce 386 protein structures and expanded its bases of operation from two countries to three. These successes helped the SGC gain approval for a second four-year phase of operation in July 2007, with triple the level of donation from the pharmaceutical industry. And even more recently, the Consortium has launched a Visiting Scientist Program, designed to facilitate collaboration with scientists and institutions around the world.

Beyond the structure output and global reach of the SGC's work however, Edwards maintains that the Consortium's real value is in its contribution to understanding human health. "Placing fundamentally important scientific information about human beings into the public domain for everyone's benefit is what the SGC is really about," he says. "This philosophy has been the driving force behind the SGC's work since we began four years ago and it will continue to define our efforts for years to come."

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Notes for editors

1. **The Structural Genomics Consortium** (SGC) is a not-for-profit organization formed in July 2004 to determine the three-dimensional structures of proteins of medical relevance, and place them in the public domain immediately and without restriction. The SGC's 165 scientists work out of the Universities of Oxford and Toronto and Karolinska Institutet, Stockholm. www.thesgc.com

The SGC receives funding from Canadian, Swedish and British sponsors representing both the public and private sectors: the Canada Foundation for Innovation (innovation.ca), Canadian Institutes of Health Research (CIHR) (cihr-irsc.gc.ca), Genome Canada (genomecanada.ca) through the Ontario Genomics Institute (OGI) (ontariogenomics.ca), GlaxoSmithKline plc. (GSK) (gsk.com), Karolinska Institutet (ki.se), the Knut and Alice Wallenberg Foundation (wallenberg.org), the Swedish Governmental Agency for Innovation Systems (VINNOVA) (vinnova.se), Swedish Foundation for Strategic Research (stratresearch.se) and the Wellcome Trust (wellcome.ac.uk) The SGC's newest funding partners are Merck (merck.com), Novartis (novartis.com) and the Ontario Ministry of Research and Innovation (mri.gov.on.ca).

2. **SGC Toronto** – The SGC Toronto laboratories seek to determine the three dimensional structures of human proteins of therapeutic relevance to diseases such as cancer and malaria. The SGC is housed within the Faculty of Medicine at the University of Toronto. The Chief Scientist at SGC Toronto is Dr. Cheryl Arrowsmith. www.sgc.utoronto.ca

3. **SGC Oxford** – The other original SGC site, part of the University of Oxford, specializes in identifying the structures of protein families involved in cancer and metabolic diseases. 65 scientists work from the Oxford site. www.sgc.ox.ac.uk

4. **SGC Stockholm** – The Stockholm laboratory was established in 2005 by Professor Pär Nordlund and is hosted by the Department of Medical Biochemistry and Biophysics at Karolinska Institutet. Currently 25 researchers are employed by the project and seek to determine the three dimensional structures of proteins involved in metabolism and neurobiology. The Chief Scientist at SGC Stockholm is Dr. Johan Weigelt. sgc.ki.se

5. **World Wide Protein Data Bank:** www wwpdb.org

