



Wednesday, December 19, 2001

## Professor to study cancer cell growth in Sweden

Biochemistry Professor Arthur Bull of Oakland University's **Department of Chemistry** soon will be on his way to Stockholm, Sweden, to start a five-month sabbatical at the Karolinska Institute, Department of Medical Nutrition, where he will study cancer cell growth and differentiation.

"One of the exciting research topics in science today is Peroxisome Proliferator-Activated Receptors (PPAR), which are crucial proteins for cell differentiation that have been studied extensively at The Karolinska Institute," Bull said. "Our lab at Oakland University has been studying a naturally occurring activator of PPAR, called 13-OXO, which recently has been established as a key contributor to cell differentiation."

By combining the strengths of both institutions, significant contributions could be made toward understanding the regulation of cell differentiation and disease processes that involve derangements of differentiation, such as cancer. If the research substantiates the preliminary suggestion that 13-OXO significantly affects PPAR, many areas of health and medicine will be impacted, since PPAR plays a key role in inflammatory diseases and certain cancers," Bull said.

"We know PPAR works in advancing cell differentiation, but we don't know how," he said. "I suspect that 13-OXO is a key, and we need to learn how much of a contributor it is, what role it plays and what areas it is involved with."

In a concurrent study at Oakland University, assistant professor of Biology, Dr. Anne Hitt, is working to clone the enzyme that produces 13-OXO. Then it will be put back into cancer cells to see if it can reverse the harmful effects and force the cells to act like normal cells again. Data received from Bull's visit also will help further this research.

In 1992-1993, Bull visited The Karolinska Institute, and during that visit, the connection between cell differentiation and 13-HODE dehydrogenase was first observed. The results were published shortly thereafter in the journal "Carcinogenesis" in an article titled "Increases in 13-Hydroxyoctadecadienoic Acid (13-HODE) Dehydrogenase Activity During Differentiation of Cultured Cells."

"The Karolinska Institute has world class scientists who are experts in doing the kind of experiments we need to do. Working with them significantly shortens the learning curve and gives any data generated much better reliability," Bull said. "This kind of collaboration is very exciting and together we should produce some significant results."

"We are quite proud of the accomplishments of Dr. Bull and especially of his appointment to the prestigious Karolinska Institute," said Chemistry Professor and Department Chair Mike Sevilla. "He has been working from the very beginning in the field of the effects of linoleic acid oxidation products and is becoming a recognized authority in this area of biochemistry. As this subject rapidly gains attention, the collaboration between Dr. Bull and the scientists at the Karolinska Institute could make major advances in cancer research and other life-threatening diseases."

Bull added that Oakland University is a good place to develop and conduct research projects, which are essential for continued development of a quality research institution.

"Oakland University provides a supportive environment for research activities, and a high quality research environment leads to high quality research," he said. "The university supports faculty with internal funding, grants, facilities, students and time, which allows them to successfully compete in the wider scientific arena and thus offers the potential to make important contributions."

As an active member of the **Center for Biomedical Research** at Oakland University, Bull works with other distinguished biomedical researchers to vigorously support and promote biomedical research and education at Oakland University and other allied institutions, to recruit and retain outstanding scientists, to facilitate collaborative biomedical research projects and to develop gift, grant and contract support for biomedical research programs, graduate and undergraduate training and core facilities and equipment.

For more information, call (248) 370-2985.

### SUMMARY

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