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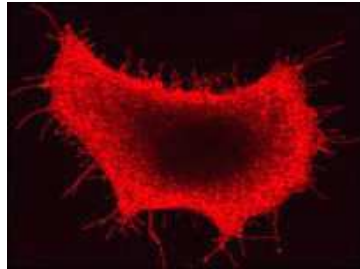
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Last Updated: Wednesday, 8 October, 2003, 11:05 GMT 12:05 UK

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US pair share Nobel chemistry prize



Cell membrane research is part of the fight against cancer

This year's Nobel prize for chemistry is shared by two US scientists.

Peter Agre and Roderick MacKinnon are being honoured by the Royal Swedish Academy of Sciences for their work on channels in cell membranes.

The Academy described the pair's work as being of "great importance for our understanding of many diseases".

They share a prize worth \$1.32m.

Medical applications

Discovering how substances pass into and out of cells is crucial to understanding very basic processes of life.

And when scientists understand how cells relate to the world around them in a healthy body, they can begin to understand what goes wrong in diseases such as cancer.

"These are discoveries that are of fundamental importance for the understanding of life processes, not just among humans and higher organisms, but also for bacteria and plants," said Bengt Norden, chairman of the Nobel committee for chemistry.

In 1991 Professor Agre discovered a way in which water molecules can pass into and out of cells.

"This decisive discovery opened the door to a whole series of biochemical, physiological and genetic studies of water channels," the Swedish academy said.

The discovery had enhanced medical understanding of kidney disease, it said.

Professor Agre works at the Johns Hopkins University School of Medicine in Baltimore, Maryland, US.

Watching cells at work

Professor MacKinnon was honoured for his work on the way salts pass into and out of cells.

He highlighted the role of microscopic doughnut-shaped ion channels which act as gatekeepers on the wall of a cell, allowing salts to pass or blocking their way.

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"Thanks to this contribution we can now 'see' ions flowing through channels which can be opened and closed by different cellular signals," the academy said.

Professor MacKinnon works at the Howard Hughes Medical Institute of the Rockefeller University in New York.

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