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By *Caty Weaver*



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This is the VOA Special English Science Report.

Three scientists have won the Nobel Prize in Medicine for discovering how genes and molecules control cell division in living organisms. The scientists are Paul Nurse and R. Timothy Hunt of Britain and Leland Hartwell of the United States. They will share the prize of almost one-million dollars awarded by the Karolinska Institute in Stockholm, Sweden.

Doctor Nurse and Doctor Hunt work for the Imperial Cancer Research Fund in London. Doctor Hartwell is director of the Fred Hutchinson Cancer Research Center in Seattle, Washington. The Nobel Assembly says it is honoring the men for their study of how cells make exact copies of their chromosomes and then divide into more cells. That process is called the cell cycle. The three scientists have been researching the cell cycle independently for thirty years. In the Nineteen-Seventies, Doctor Hartwell began studying cells of yeast, an organism with a very simple genetic structure.


Doctor Hartwell identified the yeast genes that control cell division. He found that a cell checks to make sure it has correctly copied its chromosomes before it divides. Doctor Hartwell showed that the division process stops if a cell's genetic material is damaged. It starts again when the damage is repaired.


Doctor Nurse's research expanded on these findings. He discovered the yeast gene that leads the cell cycle. Later, he identified a similar gene in human cells. He called it C-D-K. It produces a protein that controls different parts of the cell cycle. Doctor Nurse's findings on normal cell division were important for the study of the uncontrollable division of cancerous cells.

Doctor Hunt worked with the cells of sea urchins. He discovered that a protein called cyclin has an important part in the cell cycle. Cyclins work with the gene C-D-K to drive the cell cycle.

Scientists around the world have been using the discoveries of these three Nobel Prize winners. Their discoveries about the cell cycle are helping scientists learn more about cancer, which spreads by abnormal cell division. Companies are developing new drugs to control cancer by stopping cell division. Scientists also may be able to use the information to create new healthy body tissues. The three scientists will receive their Nobel Prizes December tenth at a ceremony in Stockholm.

This VOA Special English Science Report was written by
Caty Weaver.

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