

## PRESS RELEASE

### **Telomeres: where the end is just the beginning - Three share Nobel Prize for groundbreaking genetic discovery**

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Today, Europabio joins in congratulating the three Nobel Prize winning scientists who have discovered that the key to successful DNA replication is in the caps at the ends of chromosomes - the telomeres - and in the enzyme that forms them - telomerase.

Until now, replicating cellular DNA without damage to chromosomes has been problematic. However, the work of the trio of US-based scientists Elizabeth H. Blackburn, Carol W. Greider and Jack W. Szostak has brought new hope by revealing the unique DNA sequence in the telomere that protects the chromosome during this process.

These discoveries have had a major impact within the scientific community at large as, for some time, scientists had speculated that telomere shortening could be the reason for ageing of cells and organisms. Since most normal cells do not divide frequently their chromosomes are not at risk of shortening and they do not require high telomerase activity. However, in contrast, cancer cells have the ability to divide infinitely and yet preserve their telomeres. Further studies can now be undertaken to establish the significance of this gene sequence and enzyme in the replication of malignant and healthy cells. Several studies are already underway in this area, including clinical trials evaluating vaccines directed against cells with elevated telomerase activity.

“This award represents the achievement of a lifetime for any scientist” commented Willy de Greef, Secretary General for EuropaBio, “However, for most, it also represents a lifetime’s work. This year’s winners began their initial research several decades ago in the mid 1980s. In the EU we are often far less ready than our competitors to acknowledge that achievements such as these take not only academic brilliance but also vast amounts of financial and human resources. That needs to change if we are to make the most of our own homegrown talent in working towards finding EU healthcare solutions to global healthcare problems”

Commenting on the award, Chairman of EuropaBio, Dr Andrea Rappagliosi, said “We were delighted to hear of the breakthrough made by these exceptional scientists. What they have discovered constitutes a giant leap forward in our fundamental understanding of cell biology. Their work sheds light on undiscovered pathways towards the development of vital new therapeutic treatments and the benefits of this will be far reaching. We commend Blackburn, Greider and Szostak on their significant contribution to this vital field of healthcare research”

#### **References:**

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### **EuropaBio**

EuropaBio is the European Association for Bioindustries, bringing together bioscience companies from all fields of research and development, testing, manufacturing and distribution of biotechnology products. It has 72 corporate and 6 associated members, 4 BioRegions and 25 national biotechnology associations representing some 1800 small and medium sized enterprises involved in research