

Life-work and scientific work of Albert Szent-Györgyi

Category: health and lifestyle – repository of values in Szeged and Outstanding National Value

Motto: *"See what everybody else has seen, and to think what nobody else has thought."*
(Albert Szent-Györgyi)

The name of Albert Szent-Györgyi is well-known all over the world. He received a Noble Prize during his research in Szeged. He discovered vitamin C with the help of the famous Szeged paprika. During his scientific work, he made a lot of important discoveries, he devoted his last 2 decades for cancer research. He died in the USA in 1986. Keep reading and you can know him.

Did you know?

1. He was also the Rector of the University of Szeged.
 2. He took his final exams with excellent results at the secondary school.
 3. He lived under incognito (Dunai) during World War II.
 4. He often rode a bicycle, even as a professor.
 5. He could pilot planes, he was a member of the Aero Club of Délvidék.
 6. He initiated the establishment of the Youth Acting Circle of the University of Szeged in 1941.
 7. He cleared the chemical structure of vitamin P with Győző Bruckner.
 8. He patented a new type of disc in 1937.
 9. He was the founder member of the Civic Democratic Party in 1943.
 10. He was nominated for Nobel Prize for the first time in 1934.
 11. He devoted his last 2 decades for cancer research.
 12. He had secret diplomatic negotiations in Istanbul during World War II.
 13. On the 120th anniversary of his birthday, a Szent-Györgyi statue was dedicated in Szeged.
- 13+1 His Nobel Prize is preserved in the Hungarian National Museum.

His life

Albert Szent-Györgyi was born in Budapest on 16th September 1893. He finished secondary school in the Reformed Secondary School of Lónyay Utca, then he studied to University of Budapest, Faculty of Medicine where he graduated in 1917.

After World War I, he continued his studies in the fields of biology, physiology, pharmacy, bacteriology and physical chemistry in Bratislava, Prague, Berlin, Leiden, Groningen. After that, he received his second PhD in chemistry from the University of Cambridge, Faculty of Biochemistry. Later, with the support of E. C. Kendall, he worked in the USA for a year. He came back to Hungary for the invitation of Kunó Klebersberg, Minister of Education. He was the professor of the Medical-Chemical Institution of the University of Szeged from 1931 to 1945, then he was the biochemistry professor of the University of Budapest, Faculty of Medicine. At the end of 1947, he left Hungary and settled in Woods Hole, near Boston. Until 1962, he was the director of the Marine Biological Laboratory of the Institute for Muscle Research. He kept in touch with Hungary, from the 1960s, he visited home regularly. He died in Woods Hole on 22th October 1986.

His work

At the end of the 1920s, Szent-Györgyi found an unknown material in the suprarenal glands. He determined its compound ($C_6H_8O_6$) and named it hexuronic acid. When he returned home, he looked for a plant from which he could isolate hexuronic acid in a larger amount. For this purpose, Szeged paprika was excellent. From 10 litres pressed juice, 6,5 g hexuronic acid was produced. In 1932, Szent-Györgyi – and independently from him, J. Tillmans – identified hexuronic acid with vitamin C.

For his suggestion, hexuronic acid was named ascorbic acid owing to its antiscorbutic properties. The production method of vitamin C - which was isolated from paprika - was worked out in Szeged. He received the Nobel Prize in Physiology or Medicine in 1937 *“for his discoveries in connection with the biological combustion process with special reference to vitamin C and the catalysis of fumaric acid”*.

He was elected as a corresponding member of Hungarian Academy of Sciences in 1935, full member in 1938 and honorary member on 30th May 1945.

Memories in Szeged

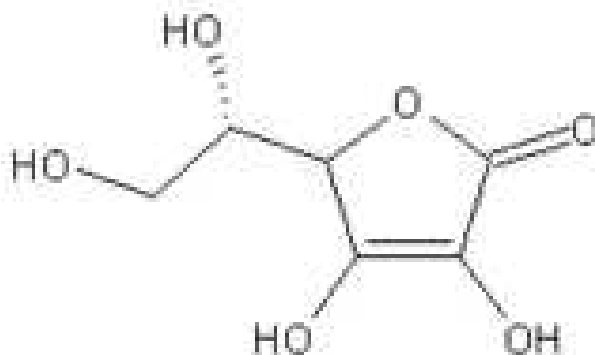
His research in Szeged

Albert Szent-Györgyi extracted and discovered vitamin C from paprika during his research in Szeged. He told the story of the discovery: *“In the evening, my wife gave me some peppers for dinner. I didn't want to eat them but I wasn't brave enough to tell her. Then, I thought, I have never tried out this plant. I told my wife **I took this paprika into my laboratory, rather than ate it.** Later that night, I knew, this paprika is **rich** in vitamin C. After few weeks, I had 1,5 kg vitamins in my hand; till then, I had only thousandth grams. I shared it all over the world so everybody knew the exact chemical structure of vitamin C.”*

He won the Nobel Prize in 1937 for discovering vitamin C.

Hexuronic acid has the following formula: $C_6H_8O_6$. Albert Szent-Györgyi suggested its better-known name: ascorbic acid. The identification of this acid made the production of vitamin C possible.

Formula of ascorbic acid





Nobel Prize was established by Alfred Nobel, Swedish chemist, inventor. In his last will - made on 27th November 1895 - he ordered his fortune to be used to create a series of prizes in physics, chemistry, physiology or medicine, literature and peace. Now, the awarded people receive 8 million SEK. Nobel didn't want to prize a scientific career or a life-work but a concrete performance, outcome which is clearly stated when somebody wins the Prize. A Nobel Prize can be received only during someone's lifetime, so some scientists couldn't live long enough for their work to be recognised. However, they would have deserved the prize. The Peace Prize is the only one which can also be received by a non-natural person. There were more organisations which received the Peace Prize. The

winners of sciences and literature can only be private individuals.

The Royal Swedish Academy of Sciences awards the Nobel Prizes except the Nobel Peace Prize. According to Nobel's last will, it is awarded by the Norwegian Nobel Committee and its members are chosen by and from the Norwegian Parliament (Storting).

Links

References:

Ralph W. Moss: Szent-Györgyi Albert. Bp., 2002

Szent-Györgyi Albert: Az őrült majom : írta egy biológus. Bp., 1989

Szent-Györgyi Albert: A béke élet- és erkölcstana : 1938 = La paix, sa biologie et sa morale : 1938.

Szeged, 2001

<http://www.szegedvaros.hu/ertektar/7756-szent-gyorgyi-albert-eletmve-tudomanyos-munkassaga.html>

<http://www.feltalalok.hu/tudosok/szent-gyorgyalbert/html/sztgyoralbindex.htm>

<http://www.kfki.hu/~cheminfo/hun/mvm/arc/szentgy.html>

https://hu.wikipedia.org/wiki/Szent-Gy%C3%B6rgyi_Albert

<https://www.youtube.com/watch?v=dIw-YO78Jr4>

<http://videa.hu/videok/tudomany-technika/szent-gyorgyi-albert-c-vitamin-kutatas-XKtkWju0RG510DM6>

<http://filmhiradokononline.hu/watch.php?id=2535#>

<http://filmhiradokononline.hu/watch.php?id=2596>

