Video Article

The 2009 Lindau Nobel Laureate Meeting: Aaron Ciechanover, Chemistry 2004

Aaron Ciechanover¹

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URL: <https://www.jove.com/video/1559>

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Abstract

Aaron Ciechanover was born in Haifa, Israel in October 1947. He shared the Nobel Prize in Chemistry in 2004 with Avram Hershko and Irwin Rose for their discovery of ubiquitin-mediated protein degradation. When Ciechanover began his work on proteolysis, the field was outside the realm of scientific mainstream as many thought that the fundamental secrets relating to sequence specificity were relevant to the synthetic side, or code side. The notion that specific sequences could selectively guide a destructive process did not naturally occur to scientists including Ciechanover himself. The emergence of controversial evidence demonstrating a requirement for metabolic energy in intracellular protein degradation, refuted the idea that cellular proteolysis was an entirely exergonic process occurring in the lysosome and prompted Ciechanover, Hershko, and Rose to "launch an attack" on the system, in order to uncover true pathway. Later findings of Ciechanover and subsequent groups showed that not only was the process energy-dependent, but that 8% of the human genome is remarkably one large ubiquitin system. Following the recapitulation and reflection of his work, Ciechanover shares insights into his principal and philosophical approach to science and life altogether. The life and work of Aaron Ciechanover are deeply rooted and influenced by Judaism and Israel and it is therefore that with only brief intermission, Ciechanover spent his scientific career in Israel as he is - through his presence and work - able to contribute and shape presence and future of the State of Israel.

Video Link

The video component of this article can be found at <https://www.jove.com/video/1559/>

Acknowledgements

The interview was conducted by JoVE co-founder Klaus J. Korak at the 2009 Lindau Nobel Laureate Meeting in Lindau, Germany.