

Swiss Biotech Success Stories award winner 2020

Professor Werner Arber



Werner Arber is a Swiss microbiologist, geneticist, and Noble Prize winner.

Along with American researchers Hamilton Smith and Daniel Nathans, Arber shared the 1978 Nobel Prize in Physiology or Medicine for the discovery of restriction endonucleases and their application in molecular genetics.

In his studies of bacterial restriction/modification systems, Arber concluded that bacteria are able to distinguish foreign DNA upon its penetration into the cell from their own DNA. Restriction enzymes cut foreign DNA into fragments, and modification enzymes protect the cell's own DNA by site-specific methylation from restriction cleavage.

Without the discovery of restriction enzymes, the fields of recombinant DNA technology, biotechnology, and genomics as we know them today would not exist. Researchers rely on restriction enzymes to perform virtually any process that involves manipulating, analysing, and creating new combinations of DNA sequences.

Credited with a long list of accomplishments within the biotechnology sector, Arber enjoys notable recognition for his research in the mechanisms of biological evolution and bacterial restriction and modification.

In December 1985, during his rectorate period, Arber proposed the inception of the Trinationl Biotechnology Program. The program kicked off at the beginning of the 1990s at the Universities of Strasbourg, Basel, Freiburg i. Brsg., and Karlsruhe and continues to be taught today.

Professor Werner Arber is an embodiment of Swiss success, without whom the field of Biotechnology might be a very different place.