

Katalin Kariko, Drew Weissman Get Nobel Prize 2023 For Medicine

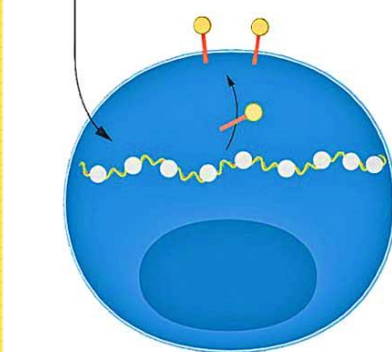
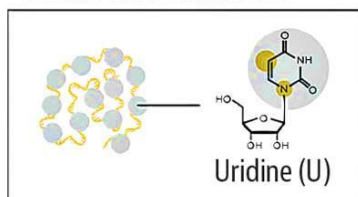
Why In The News?

- The Nobel Assembly At Karolinska Institute Has Today Decided To Award The 2023 Nobel Prize In Physiology Or Medicine Jointly To **Katalin Kariko And Drew Weissman** For Their Discoveries Concerning Nucleoside Base Modifications That Enabled The Development Of Effective **mRNA Vaccines Against COVID-19**.
- Their Discoveries Have Fundamentally Changed Our Understanding **Of How mRNA Interacts With Our Immune System**, The Laureates Contributed To The **Unprecedented Rate Of Vaccine Development** During One Of The Greatest Threats To Human Health In Modern Times.

mRNA vax: A pioneering research

A problem with injected mRNA was that it caused inflammatory reactions. To prevent this, the two scientists modified the mRNA's chemistry; this technology is used in Moderna and Pfizer's Covid vaccines

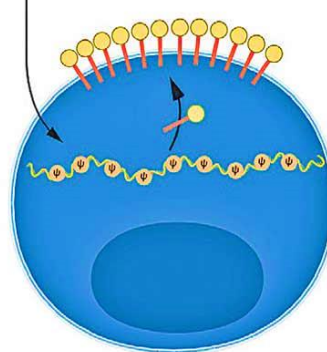
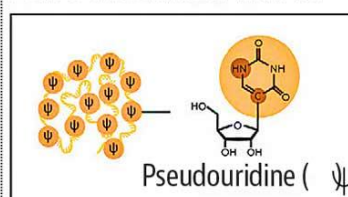
Unmodified mRNA



Inflammatory response

Illustration: Mattias Karlén; source: nobelprize.org

Base-modified mRNA



Inflammatory response

ABOUT THE SCIENTISTS

- Hungarian scientist Katalin Kariko, a former senior vice-president and head of RNA protein replacement at German biotech firm BioNTech, is a professor at the University of Szeged in Hungary and adjunct professor at the University of Pennsylvania
- Co-winner US scientist Drew Weissman is a professor in vaccine research also at Pennsylvania
- The two scientists will share the 11 mn-krona (\$1 million) award



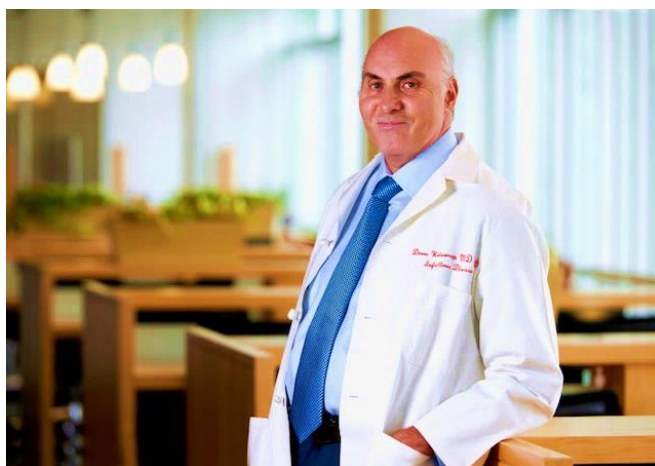
Katalin Kariko

- **She Was Born In 1955 In Szolnok, Hungary.** She Received Her PhD From Szeged's University In 1982 And Performed **Postdoctoral Research** At The Hungarian Academy Of Sciences In Szeged Until 1985. She Then Conducted Postdoctoral Research At Temple University, Philadelphia.
- In 1989, She Was Appointed **Assistant Professor At The University Of Pennsylvania**, Where She Remained Until 2013. Since 2021, She Has Been A **Professor At Szeged University** And An Adjunct Professor At Perelman School Of Medicine At The University Of Pennsylvania.



Drew Weissman

- **He Was Born In 1959 In Lexington, Massachusetts, USA.** He Received His MD, PhD Degrees From Boston University In 1987. He Did His Clinical Training At Beth Israel Deaconess Medical Center At Harvard Medical School And **Postdoctoral Research** At The National Institutes Of Health.
- In 1997, Weissman Established His Research Group At The Perelman School Of Medicine At The **University Of Pennsylvania**. He Is The Roberts Family Professor In Vaccine Research And Director Of The Penn Institute For RNA Innovations.



Nobel Assembly

- The Nobel Assembly, Consisting Of **50 Professors At Karolinska Institute**, Awards The Nobel Prize In **Physiology Or Medicine**.
- Since 1901 The Nobel Prize Has Been Awarded To Scientists Who Have Made The Most Important Discoveries For The Benefit Of Humankind.

