



MATILDA

EFFECT



**Pionierinnen der Female Pioneers
Forschung of Research**

Pt. 57

Mary E. Brunkow





Mary Brunkow (*1961)

Immunologist & Nobel Laureate

She studied molecular biology at the *University of Washington* and *Princeton*.

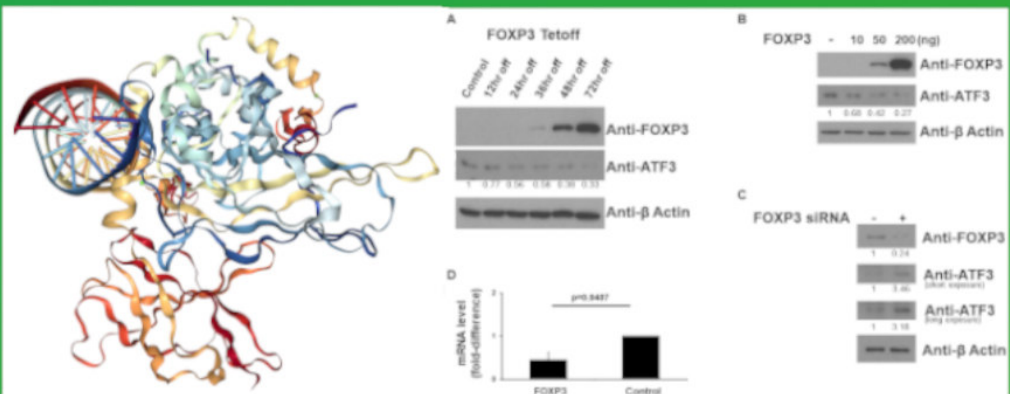
She completed her Ph.D. under the renowned geneticist Shirley M.

Tilghman. She worked in the biotech industry and is now based at the *Institute for Systems Biology* in Seattle.

There, she leads programs in systems biology and immunology.



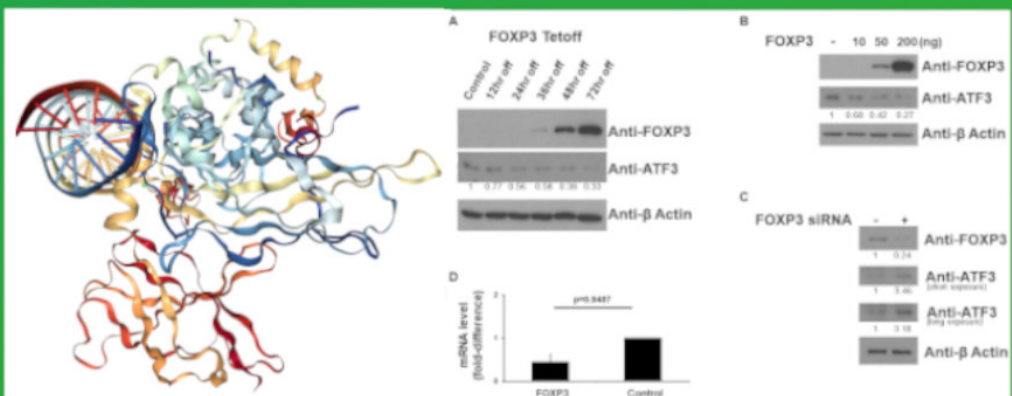
Brunkow identified the **FOXP3** gene as key to the function of regulatory T cells (*Tregs*). Her work with so-called *scurfy mice* demonstrated that mutations in **FOXP3** lead to severe autoimmunity. This discovery was crucial for understanding peripheral immune tolerance. It provided the molecular foundation for new therapies targeting autoimmune diseases.



FOXP3 research enabled the diagnosis of the rare *IPEX syndrome* in humans.

Brunkow's findings are considered a milestone in immunology. They significantly contributed to the development of modern immunotherapies.

Her work continues to influence the treatment of cancer, chronic inflammation, and supports organ transplantation.





Although she identified the genetic cause of the **FOXP3** gene — a key discovery for modern immunology — her work remained less visible than that of two male colleagues for a long time.

It was only with the awarding of the Nobel Prize in 2025 that her role was publicly acknowledged and brought to the forefront.

In earlier years, FOXP3 was often associated with her two co-laureates, even though Brunkow had played a leading role in the gene mapping and functional analysis.





„Sei nicht albern.“

- Ihre spontane Reaktion, als ihr Mann ihr die Nachricht vom Nobelpreis überbrachte

„Don't be ridiculous.“

- Her spontaneous reaction when her husband told her about the Nobel Prize.

