



NOVA 1

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Recent research suggests that **genetics played a key role in the evolution of human speech**, with scientists linking the **NOVA1 (Neuro-Oncological Ventral Antigen 1)** gene to the development of spoken language.

- **NOVA1:**
 - **NOVA1** is a gene that **produces a protein** found in most mammals, playing a **key role** in **processing genetic information, brain development, and neuron activity**.
 - **Modern humans** have a **unique variant of this gene**, distinguishing it from those found in **Neanderthals** and **Denisovans** (ancient human species).
- **NOVA 1 Role in Speech Evolution:**
 - Scientists in an experiment **replaced the NOVA1 variant in mice with the human version** using [CRISPR gene-editing](#).
 - The **modified mice** showed **distinct vocalizations**, with **altered distress calls** in infants and **more complex social squeaks in males**, indicating that the gene influenced communication.
- **FOXP2:**
 - **FOXP2** is also a gene linked to **speech and language**. It is found in **both humans and Neanderthals**, while **NOVA1 is unique to Homo sapiens**, making it more likely to explain human speech evolution.

Read More: [ecDNA Challenging Genetics Principles](#)

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