

# 2021 Nobel Prize in Physiology or Medicine

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**In news-** **David Julius and Ardem Patapoutian** jointly won the 2021 Nobel Prize in physiology or medicine for their discoveries of receptors for temperature and touch.

## ***More information-***

- They identified receptors in the skin that respond to heat and pressure.
- Focussing on a field known as **somatosensation**, they decoded how the human body turns physical sensations into electrical pulses in the nervous system.
- David Julius of the University of California utilised **capsaicin, a pungent compound from chili peppers** that induces a burning sensation, to **identify a sensor in the nerve endings of the skin that responds to heat.**
- Ardem Patapoutian, of Howard Hughes Medical Institute at Scripps Research, used **pressure-sensitive cells to discover a novel class of sensors** that respond to mechanical stimuli in the skin and internal organs.
- The groundbreaking work is being **used to develop treatments for a wide range of diseases and conditions, including chronic pain.**
- It promotes research activities leading to a rapid increase in our understanding of how our nervous system senses heat, cold, and mechanical stimuli.