

#MEASURES

## Karat And Carat

The Origins and Evolution of the Word 'Karat'



The word 'karat' is widely recognized today as a measure of the purity of gold or, alternatively, the weight of gemstones (spelled 'carat' in

The Ancient Roots: Carob Seeds as a Natural Measure

The origin of the word *karat* can be traced back to the ancient Mediterranean world. It derives from the Greek word *keration*, which means 'carob seed.' The carob tree produces small, hard seeds that were prized for their remarkable consistency in size and weight. Because of this uniformity, carob seeds became an ideal natural standard for weighing small quantities, especially precious materials like gold and gem-

Transition Through Languages: From Greek to Arabic

As trade routes expanded, especially during the medieval period, the concept and term spread beyond Greek-speaking regions. Arabic merchants, who were pivotal players in global trade networks spanning Europe, Africa, and Asia, adopted the term as *qirat*. In the Arabic language, *qirat* not only continued to denote a unit of weight but also became

Modern Usage: Karat as a Measure of Gold Purity

Today, the term *karat* is predominantly used to describe the purity of gold. Pure gold is defined as 24 karats, indicating that all 24 parts out of 24 are pure gold, essentially 100% gold content. Gold that is less than 24 karats contains alloys mixed in to enhance its hardness and durability, since pure gold is soft and malleable.

Karat vs. Carat: Two Sides of the Same Coin

Though related, the words *karat* and *carat* have evolved to represent different concepts in the jewelry industry. While 'karat' is used to measure gold purity, 'carat' is the international unit for weighing gemstones. One carat equals 200 milligrams

A Word with a Global Legacy

The word *karat* has journeyed from ancient Greek traders using carob seeds to weigh gold, through Arabic merchants spreading the term across continents, to today's global jewelry markets where it serves as a universal standard of purity. This evolution mirrors the history of trade, cultural exchange, and scientific stan-



# The Magical T-reg cells

If successful, these therapies could be a game-changer. Instead of broadly suppressing the entire immune system (which current drugs do, leaving autoimmune patients vulnerable to infections), this approach offers a highly targeted way to restore the immune balance, potentially leading to a long-term cure or remission. Imagine how all these patients either will not require any medicines or an immensely reduced medication load (No insulin, oral anti-diabetic agents). For cancer, the goal is the opposite of what it is for autoimmunity: researchers want to temporarily deactivate or remove the T-regs near the tumor. Thus, by moving the 'security guards' out of the way, the immune system's main 'fighting' T cells (which destroy the cancer) are unleashed, making immunotherapy much more effective.

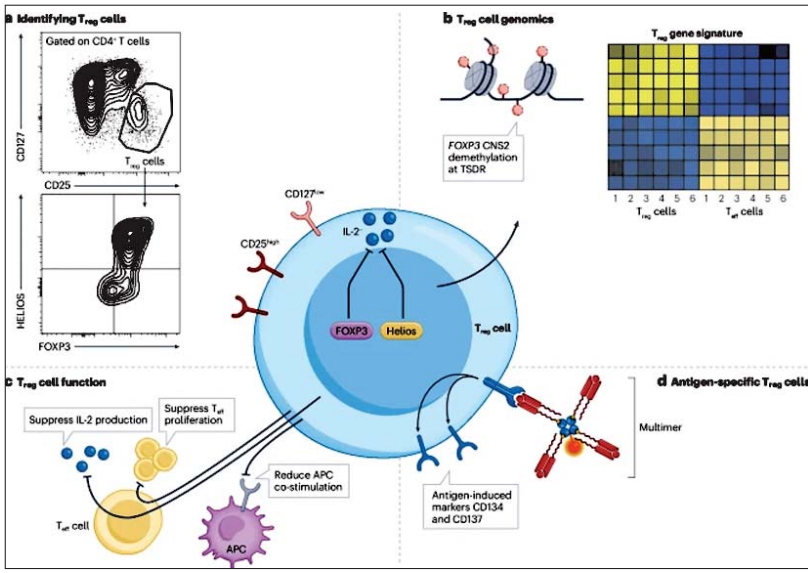


always look forward to the Nobel Prize Awards that are usually announced in the first week of October. They are an insight on some of the amazing works that is being done in different fields of science and literature. The

Nobel Peace Prize, on the other hand, is mostly a political decision and often controversial and not acceptable to the people at large, the lesser said about it the better! The Nobel Prize given in Physiology and Medicine is of great import. This year (2025), the work by Mary E. Brunkow, Fred Ramsdell, and Shimon Sakaguchi on regulatory T cells (T-regs), the immune system's 'security guards,' is directly relevant to managing patients with both overactive (autoimmune) and underactive (low immunity) immune systems.

Let me try and explain the relevance of this profound piece of research. The discovery of peripheral immune tolerance is of major clinical importance and is actively being translated into treatments. If the transition is successful, it will be a great boon for millions of patients besides reducing the cost of healthcare in a big way. Let us begin with its use in autoimmune diseases (overactive immunity).

In diseases like Type 1 Diabetes,



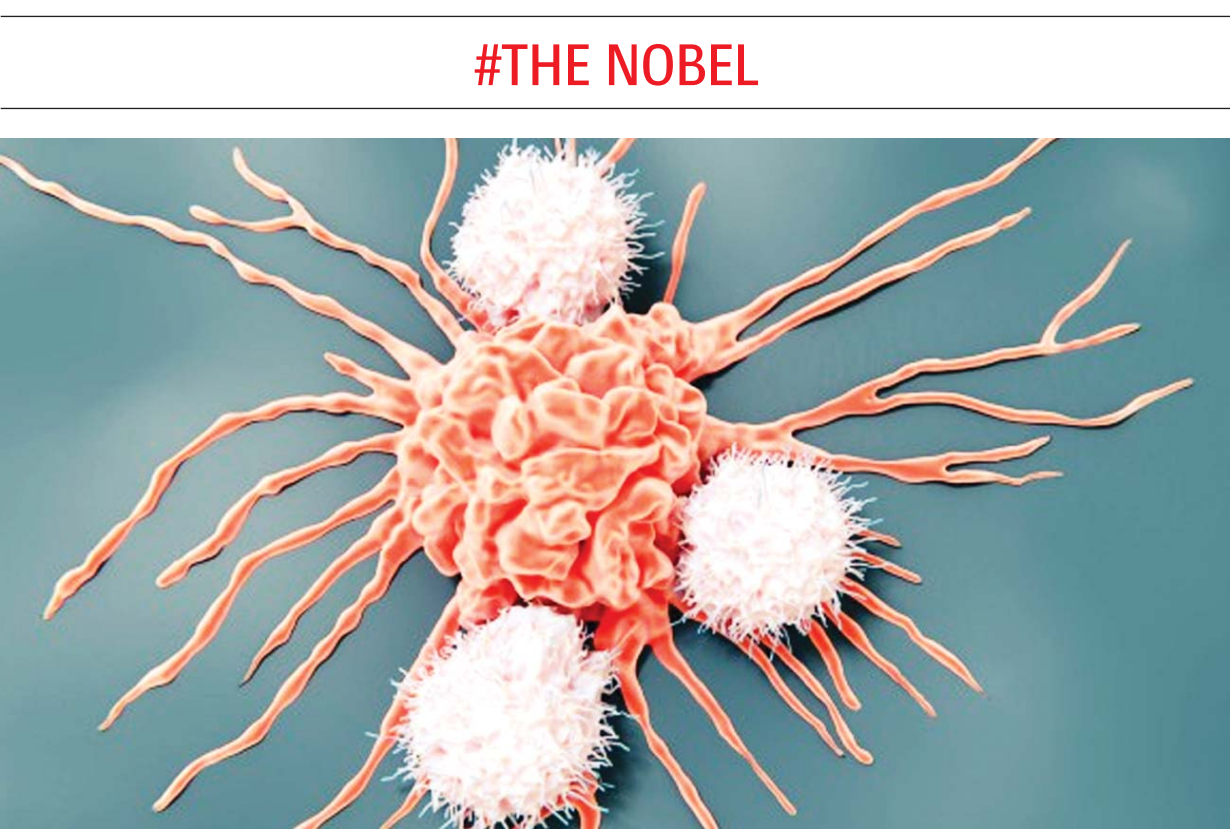
Researchers are figuring out how to increase the number or enhance the function of T-regs in patients. In the near future, these regimens will bring forth immense relief to a huge number of patients. This involves taking a patient's own T-regs, multiplying them in a lab, training them to target the specific area under attack (e.g., the pancreas in Type 1 Diabetes, Joints in Rheumatoid arthritis) and then injecting them back into the patient.

Rheumatoid Arthritis and Lupus, the T-reg 'security guards' are either too few or not doing their job properly. As a result, the rest of the immune army attacks the body's healthy tissues. This brings about alarming changes in the body requiring a large armamentarium of drugs.

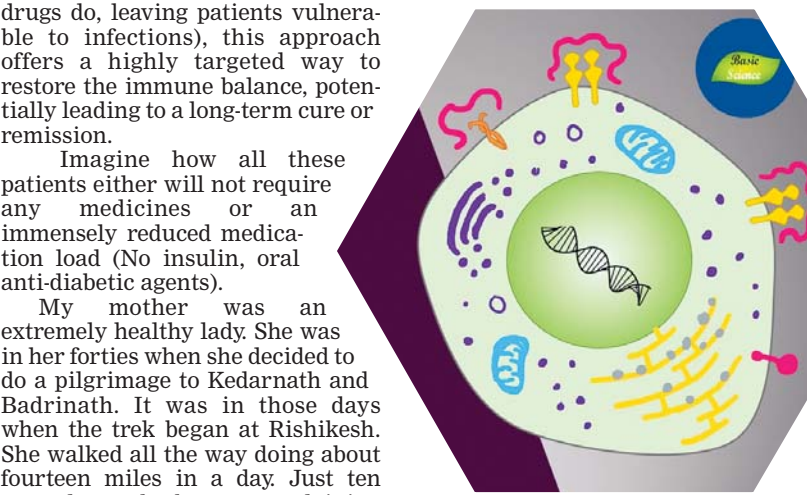
This Nobel-winning discovery provides a direct target for new drugs by boosting the 'Security Guards.' Researchers are figuring out how to increase the number or enhance the function of T-regs in patients. In the near future, these regimens will bring forth immense relief to a huge number of patients.

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Regulatory T cells in cancer immunosuppression.



different. Most people are aware that Amitabh Bachchan has a number of maladies. Some of them begin with the time when he was treated for his life-threatening abdominal injury while shooting the movie 'Coolie.' One of his conditions, which is extremely debilitating, is Myasthenia Gravis. For this, he is on a strict medical regimen and still has to take many breaks in his work as his muscles begin to sag and even his eyelids droop. It will be possible for patients like him to benefit immensely if the T-Reg cells can give him a targeted therapy. He

## BABY BLUES



By Rick Kirkman & Jerry Scott

## ZITS



By Jerry Scott & Jim Borgman