






## Leptin Hormone: In Brief

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### What is the hormone leptin?

There is a lot of research and information on drugs and treatments. However, a questionnaire was conducted to determine the degree of knowledge of doctors and medical personnel in general about the hormone leptin. It was found that many people do not know what leptin is and what its role is in the body (1).

Leptin is a hormone that plays a key role in energy consumption and regulation of energy consumption. Leptin hormone is one of the hormones that

have a basic role in many vital functions of the body, and this hormone has been called many names based on its work in the body, and the most prominent of these names are; The obesity hormone, the hunger hormone, and the fat hormone as well (1), Leptin hormone is known as a peptide hormone that is produced and secreted by fat cells responsible for regulating body weight, acting on the hypothalamus in order to reduce appetite, in addition to working to burn fat stored in adipose tissue. The hormone leptin has also been known as the hunger hormone or the satiety hormone; Because it

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is the hormone responsible for sending some notifications to the brain that the individual is feeling full and that he has taken the sufficient amount of calories that his body needs, or in order to work in reverse, that is, the individual still needs more energy, i.e., calories (3).

The main functions of leptin After identifying the answer about what is the leptin hormone? We mention the most prominent and most important functions that result from the body's need for the process of secretion and production of the hormone leptin; that is, the vital functions controlled by the hormone leptin are the following:

- \* Regulate the functions of the reproductive system.
- \* Regulating the functions of the thyroid gland.
- \* Regulation and control of the adrenal gland.
- \* To control the production of growth hormones in the body.
- \* Regulating body weight. (4)

### **The effect of leptin on physiological processes**

Leptin hormone plays a basic and important role in regulating many physiological processes in the individual's body, and the functions of this hormone are, in most cases, mediated by the central nervous system (CNS).

Despite this, this hormone has many receptors in non-neuronal cells, indicating that leptin may directly affect these cells and tissues (5).

This hormone also has a role in improving insulin sensitivity independent of its effects on an individual's weight. This effect on insulin sensitivity is usually mediated by central mechanisms as shown by experiments on some rodents and mice.

The leptin hormone also plays a role in analyzing fats found in white adipose tissue, whether in vivo or even tested in laboratories. The increase in leptin levels in the blood does not lead to the release of free fatty acids in the blood but rather is based on the oxidation of these fatty acids in the inside fat or adipocytes (5).

In experiments with mice, it was also observed that leptin stimulates the oxidation of fatty acids in the muscles of rodents and mice by activating a protein known as AMP-activated protein kinase (5).

### **Leptin supplement**

Leptin is a digestible protein, so it is usually not recommended to obtain it through supplementation. It is worth noting that supplements that may be sold to individuals do not contain the leptin that the body needs.

However, it may contain some ingredients that claim to improve the performance of leptin in the body or even the feeling of the individual who uses it, so it is preferable not to use it (6).

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