



## Royal Jelly: A Traditional Medicine and its Commercial Uses

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### Description

A milky-white substance made by worker bees called royal jelly aids in the growth of the queen bee. *Apis mellifera*, Bee Saliva, Bee Spit, Gelée Royale, Honey Bee Milk, Honey Bee's Milk, Jalea Real, Lait des Abeilles, or Royal Bee Jelly are other names for royal jelly. Due to its remarkable properties, this natural product has been regarded throughout history as a gold mine for both conventional and alternative medicine. Commercial medical items have long contained royal jelly [1]. It has been shown to have a wide range of functional qualities, including antioxidant, antibacterial, anti-inflammatory, vasodilator, hypotensive, anticancer, and estrogen-like properties. Common uses for this substance include treating conditions like diabetes, cancer, Alzheimer's disease, sexual dysfunction, and cardiovascular disease. The major goal of this study is to demonstrate how well royal jelly supplements can treat problems associated with ageing and menopause [2]. The worldwide healthcare system has struggled greatly with the problem of non-healing wounds. Unfortunately, royal jelly, a traditional treatment for a variety of skin injuries, has not been utilised frequently in clinical settings for cutaneous wounds [3]. This may be because of misunderstandings and a lack of information regarding the effectiveness of various types of royal jelly, its bioactive components, and the precise mechanisms underlying its wound-healing properties [4]. This medication has a unique ingredient called 10-HDA in particular. Due to traditional medicine and apitherapy, Royal jelly has historically been used as a health enhancer and is currently quite relevant in China. Due to its health-promoting qualities, it is now primarily consumed as a functional food or included in supplements and other formulations [5]. Royal jelly or its particular components have been shown to have anti-lipidemic, antioxidant, antiproliferative, antibacterial, neuroprotective, anti-inflammatory, immunomodulatory, antiaging, and estrogenic properties [6]. The hypopharyngeal

and mandibular glands of nursing bees secrete royal jelly, a yellowish-white, acidic substance that is fed to developing worker larvae during the first three days and for the duration of the queen bee's life. Royal Jelly is a highly regarded and cherished natural product that has been used for a very long time in traditional medicines, health foods, and cosmetics around the world. In order to understand its bioactivities, including its antibacterial, antioxidant, anti-aging, immunomodulatory, and general tonic activity against laboratory animals, microbiological organisms, farm animals, and clinical trials, it is also the most researched bee product. Numerous illnesses, such as cancer, diabetes, cardiovascular disease, and Alzheimer's disease, are frequently treated with it. The natural bee product known as royal jelly possesses physiologically active components that have anticancer, antiallergic, antibacterial, and immune-regulating properties. Abdominal pain and diarrhoea may be symptoms of Inflammatory Bowel Disease (IBD), a chronic inflammatory condition of the intestines. With this research, we aimed to investigate RJ's protective effects on mice with colitis brought on by DSS [7]. The RJ samples utilised in this study's physiochemical analysis complied with both international and Chinese national standards. The Hypopharyngeal Glands (HGs) of honeybee workers secrete royal jelly. A population of honeybees chosen from Italian Bees (ITBs) known as high Royal Jelly producing Bees (RJBs) has evolved a better capacity to make RJ than ITBs. However, nothing is currently known about the mechanism underlying the strong RJ-producing performance in RJBs. We have thoroughly described and contrasted the proteome of worker bees from ITBs and RJBs over the course of their lifespans [8]. Our findings reveal unique molecular environments that control gland development and function in accordance with age-specific activities. To fuel the gland activities of RJ secretion, Nurse Bees (NBs) have well-developed acini shape and cytoskeleton of secretory cells in HGs.

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