New Zealand Royal Jelly

Chewable tablets
with fresh New Zealand Royal Jelly & UMF Manuka honey

(Natural health improvement)

Auckland 2006
Unique properties of New Zealand Royal Jelly in combination with antibacterial properties of New Zealand UMF Active Manuka honey provide to the following beneficial properties:

- Stimulate physical performance, better memory, learning capacity and self-confidence
- General health improvement
- Increase resistance to viral infections
- Regulate blood pressure
- Sexual desire and performance

Well known that Royal Jelly has very short shelf life. Therefore development of technologies of its preservation is very important.

ApiHealth Royal jelly tablets have some advantages compare to existing on the market Royal Jelly soft gel capsules:

1. ApiHealth Royal Jelly tablets were produced with using of new preservative processing technology based on manufacturing of adsorbed royal jelly. This is new method of preservation of fresh liquid royal jelly, which is completely different from manufacture of lyophilized royal jelly. This technology allows preserve maximum of biological activity of Royal jelly in powder form. Adsorbing process not involve freeze process and in result volatile royal jelly components are well preserved and physical-chemical and biological characteristics of adsorbed royal jelly conform to fresh natural liquid royal jelly in compare to lyophilized royal jelly.

Therefore stimulating activity of adsorbed royal jelly in tablets is similar to natural liquid royal jelly. It is big advantage compare to lyophilized royal jelly, which is now use many companies for manufacturing soft gel capsules. This technology was developed in Russian Scientific Research Institute of Beekeeping.

2. Other advantage of ApiHealth royal jelly tablets due to the best possibility of getting maximum healing properties from royal jelly, because of maximum penetration of royal jelly components into bloodstream is carried out through the larynx and mouth mucous membranes, as long as recommended to chew tablet until its complete dissolution in compare to capsule form, which is designed for swallow. In result stomach enzymes will inactivate some of royal jelly components and final effect will be significantly less.

3. ApiHealth Royal Jelly tablets have very a pleasant taste and very and a very convenient for use. It can be used similar to candy. Formulations for soft gel capsules require oil based extracts and can be used only in swallow form.

4. Shelf life of ApiHealth tablets is 2 years.

Ingredients

The key unique healing ingredient of Royal Jelly tablets is adsorbed fresh New Zealand Royal jelly. Each 500 mg of tablet contains to the following active ingredients:

- 132 mg of fresh adsorbed New Zealand Royal jelly which was collected from New Zealand bees
- 50 mg of Manuka honey UMF 10+

GENERAL INFORMATION ABOUT ROYAL JELLY.
Royal jelly is a creamy product secreted by young nurse worker bees for feeding to the queen, queen larvae and other young larvae. It is totally synthesized by the bees in the hypo pharyngeal and mandibular glands and is derived from the proteins and nutrients in the pollen ingested by the secreting bees.

Royal jelly consists of an emulsion of proteins, sugars, and lipids in a water base. The proteins have no particularly unusual properties and have the main presumed function of providing the growing larva or the queen a readily digested source of protein. So, according to information referred in book “Value-added products from beekeeping”, published in 1996, “of the nitrogenous substances, proteins average 73.9% and of the six major proteins (Otani et al., 1985) four are glycoproteins (Takenaka, 1987). Free amino acids average 2.3% and peptides 0.16% (Takenaka, 1984) of the nitrogenous substances. All amino acids essential for humans are present and a total of 29 amino acids and derivatives have been identified, the most important being aspartic acid and glutamic acid (Howe et al., 1985). The free amino acids are proline and lysine (Takenaka, 1984 and 1987).”

The remainder of the composition, except the lipids, also appears to be oriented toward providing balance nutrients for the consuming individuals.

The lipids are unusual because they lack the normal triglycerides and diglycerides that are composed of fatty acids having carbon chains of even numbers from 14 to 20 that are typical of insect fats. Instead royal jelly lipids composed mostly of short chained 8-10 carbon hydroxy fatty acids or diacid. These compounds have active functionalities at both ends of the molecule, are more soluble in water than usual fatty acids, are highly acidic and act as good detergents and antimicrobial agents. It is this latter property, antimicrobial activity that appears to be the main function of the lipids in royal jelly. The principal acid is 10-hydroxy-2-decanoic acid, followed by its saturated equivalent, 10-hydroxydecanoic acid.

The sugars consist mostly of fructose and glucose in relatively constant proportions similar to those in honey. Fructose is prevalent.

The total ash content of royal jelly is about 1% of fresh weight or 2 to 3% of dry weight. The major mineral salts are, in descending order: K, Ca, Na, Zn, Fe, Cu and Mn, with a strong prevalence of potassium (Benfenati et al., 1986).

Royal jelly also contains aspartic acid, which is necessary for tissue growth, and nucleic acids RNA and DNA.

The vitamin content has been the object of numerous studies. So, according to information referred in book “Value-added products from beekeeping”, published in 1996, below table 6.2 indicates the results obtained by Vecchi et al., (1988) with regard to water-soluble vitamins.

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiamine</td>
<td>1.44</td>
<td>6.70</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Pantothenic Acid</td>
<td>159</td>
<td>265</td>
</tr>
<tr>
<td>Pyridoxine</td>
<td>1.0</td>
<td>48.0</td>
</tr>
<tr>
<td>Niacin</td>
<td>48</td>
<td>88</td>
</tr>
<tr>
<td>Folic acid</td>
<td>0.130</td>
<td>0.530</td>
</tr>
<tr>
<td>Inositol</td>
<td>80</td>
<td>350</td>
</tr>
<tr>
<td>Biotin</td>
<td>1.1</td>
<td>19.8</td>
</tr>
</tbody>
</table>

How does Royal Jelly work?

Royal Jelly has antibacterial, anti-inflammatory and anti-proliferative activities.
In vitro studies have confirmed that 10-hydroxydecanoic acid in royal jelly has antibiotic activity. The antibiotic effectiveness is thermostable, i.e. is not destroyed by moderate heating, but it decreases with improper or long-term storage. Antibiotic action has been proven against the following micro-organisms: *Escherichia coli*, *Salmonella*, *Proteus*, *Bacillus subtilis* and *Staphylococcus aureus* (Lavie, 1968; Yatsunami and Echigo, 1985). It shows one quarter of the activity of penicillin against *Micrococcus pyrogens* and is also fungicidal (Blum et al., 1959). In vitro, antiviral effects have been described (Derivici and Petrescu, 1965) and better resistance to viral infections has been observed in mice.

Antibiotic action of fatty acids is neutralized by raising the pH above 5.6. Since injection into blood, muscle or the peritoneal cavity will raise the pH to 7.4, and the pH is above 5.6 in the intestines, the therapeutic value of the anti-bacterial activity of fatty acids is likely to be negligible for any internal applications, but will remain effective for topical use.

In studies on the internal effects of royal jelly with live animals or humans the jelly is usually administered either by mouth or by injection. The latter allows better assessment of hormonal activities ascribed to royal jelly but carries a substantial risk of allergic reactions.

**Beneficial properties of Royal Jelly.**

Miraculous healing properties of Royal Jelly attract attention of many researchers. Scientists discovered that regular consumption of Royal Jelly regulates the level of haemoglobin and erythrocytes in blood. Such beneficial property of Royal Jelly is provided by vitamin B12.

Royal Jelly is very useful as an overall restorative remedy for patients depleted and weakened by severe sicknesses. It is also helpful in cases when the body is weakened by ageing. The patients gain their appetite and normal weight back, become cheerful and vivacious.

It is discovered that Royal Jelly:

- Normalizes blood pressure, functions of cardiovascular system, respiratory system, gastric and intestinal tract;
- Rejuvenates the body, increases potency, mental and physical working ability;
- Assists in growing and development of the body;
- Normalizes metabolism and deduces toxins from the body;
- Provides relaxing effect for women during menopause

Healing effect of Royal Jelly is based on its specific action. It provides tonic effect on some of the hipotolamus centers. As a result the secretion of hypophysis hormone in hipotolamus is increased. Under its influence the synthesis of special corticosteroids, which provide all-round beneficial effect on the body increases in adrenal glands.

It has to be noted that the application of Royal Jelly as a healing remedy is still a disputable issue, and the fact that it cannot be taken by people with allergic reaction to it must not be ignored.

Further research of chemical content and biological properties of Royal Jelly promises very interesting perspectives of its application as a healing natural remedy.

**Table 6.4.:**

**A list of some effects of royal jelly on humans.**

<table>
<thead>
<tr>
<th>Applications</th>
<th>Description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature babies and those with nutritional</td>
<td>8-100 mg orally, improvement of general condition; increase in weight</td>
<td>Malossi &amp; Grandi, 1956</td>
</tr>
</tbody>
</table>
| Deficiencies of various origins | Appetite, red blood cells and hemoglobin | Prosperi and Ragazzini, 1956
|                              |                                        | Prosperi et al., 1956
|                              |                                        | Quadri, 1956
| Elderly (70-75 years), anorexic, depressed and low blood pressure patients | 20 mg injected every second day, improvements on all accounts
|                              | 20 mg taken orally every second day, improvements as above | Destrem, 1956
|                              |                                        | Destrem, 1956
| Psychiatry                    | Improvements of asthenia, nervous breakdown, emotional problems and counteraction of side effects of psychoactive drugs | Telatin, 1956
| Chronic metabolism            | Mixture or royal jelly, honey and ginseng, improvements in weight gain and psychological conditions, but changes of blood characteristics | Borgia et al., 1984
| Stimulating metabolism        | Stimulating effects comparable to that by proteins, effect assumed to be due to activity of enzymatic complexes | Martinetti and Caracristi, 1956
| Wound healing                | 5-30 mg/ml injected into burn blisters, improved re-growth of skin | Gimbel et al., 1962

**UMF ACTIVE MANUKA HONEY**

Manuka honey is a superior treatment for wounds and infections. Manuka honey is gathered in New Zealand from Manuka bush, Leptospernum scoparium, which grows uncultivated throughout the country. Dr. Peter Molan and his research team at the Honey Research Unit at New Zealand's Waikato University found in some specific strains of manuka honey a second natural more powerful and more stable antibacterial property called UMF.

UMF is additional to the hydrogen peroxide activity and gives the honey a wider range of uses and effectiveness. In laboratory tests the UMF property has been found to be effective against a wide range of bacteria including:
- helicobacter pylori - this bacteria causes most stomach ulcers,
- staphylococcus aureus and escherichia coli - the most common cause of infected wounds and MRSA,
- streptococcus pyogenes - causes sore throats.

The hydrogen peroxide antibacterial property of other honeys (including ordinary manuka honey) is not effective against helicobacter pylori. The UMF antibacterial property is very stable. It is resistant to heat and more resistant to being broken down by the catalase effect of body fluids than is the hydrogen peroxide activity. Studies are showing UMF Manuka Honey with high levels of UMF could be very effective in:
- digestive care by helping relieve stomach ulcer symptoms and gastritis
- wound care by assisting the natural healing of skin ulcers, diabetic ulcers, wounds, burns, boils, cracked skin, pressure sores, MRSA, eczema, dermatitis
- relieving sore throats

- oral hygiene as it inhibits acid production and helps prevent cavities developing in teeth.

The UMF antibacterial property is a phytochemical property meaning it is a floral derived property coming from the nectar of some manuka flowers. For this reason it is in only some specific strains of manuka honey. The hydrogen peroxide antibacterial property is from the enzyme glucose oxidizes which the bees have added to the honey.

HOW TO TAKE ROYAL JELLY TABLETS

Recommended to take 2 tablets daily without any food or drink. Please chew tablet until it will be dissolved.

PRECAUTION:

People who have allergic reactions to royal jelly should seek medical advice.

References


SCIENTIFIC FACTS:

1. Royal jelly may have benefits of blood pressure lowering.
"Protease N treated royal Jelly and its peptides" can inhibit angiotensin I-converting enzyme (ACE) activity and they can lower the blood pressure in repeated oral doses on spontaneously hypertensive rats. Tokunaga's research group found that the antihypertensive effect of the peptide mixture could be as high as 38%.

2. Royal jelly shows anti-inflammatory action in a cell study.
Kohno has examined Royal Jelly's anti-inflammatory actions at cytokine level using cultures of mouse peritoneal macrophages. They found that Royal Jelly has anti-inflammatory actions through inhibiting proinflammatory cytokine production by activated macrophages. Royal Jelly inhibits the production of proinflammatory cytokines by activated macrophages. Kohno et al,
3. **Royal Jelly may have benefits of DNA Protection anti-cancer activities, animal study suggest.**
Inoue et al studied the effect of dietary Royal Jelly on tissue DNA oxidative damage and on the life span of C3H/HeJ mice. They found that the levels of 8-hydroxy-2-deoxyguanosine (a marker of oxidative stress) was significantly reduced if the mice were fed with Royal Jelly for 16 weeks. The dietary Royal Jelly also increased the average life span of C3H/HeJ mice through the mechanism of reduced oxidative damage. Royal Jelly prolongs the life span of C3H/HeJ mice: correlation with reduced DNA damage. Inoue et al, Fujisaki Institute, Japan. Exp Gerontol. 2003 Sep;38(9):965-9.

4. **Effects produced by Royal Jelly on haematopoiesis: relation with host resistance against Ehrlich ascites tumour challenge.**
Binclletto C. et al found royal jelly was able to produce effect on haematopoiesis of Ehrlich ascites tumor-bearing mice. Thus, royal jelly prevented the myelosupression in mice. Int Immunopharmacol. 2005 Apr; 5(4):679-88.

5. **Royal jelly has anti-fatigue effects.**

6. **Royal jelly has antibacterial effects.**

7. **Fujiwara et al found a potent protein against Gram-positive bacteria in royal jelly.**