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AVAILABILITY OF MELATONIN AND PHYTOMELATONIN SUPPLEMENTS

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Melatonin is widely known as a biological modulator of circadian rhythms, mood, sleep, body temperature, locomotor activity, food-intake, retina physiology, sexual behavior, seasonal reproduction and immunological system. Added to this, is an excellent antioxidant, at physiological concentrations.In mammals, melatonin is secreted by the pineal gland into the cerebrospinal liquid and to the bloodstream, maximal levels being reached during the middle of the night. This circadian pattern of melatonin secretion is regulated by the biological clock that resides in mammals within the hypothalamic suprachiasmatic nucleus (SCN).

Purpose of the study is to find out the most prevalent supplements containing melatonin and phytomelatonin by deep surfing scientific internet sources. To compare different commercial formulations exclusively composed of phytomelatonin that are popular among the world. To discover plants composed of phytomelatonin.

Nutraceuticals and dietary supplements are intended to enrich the diet. These are growing markets in both developed and developing countries. Some factors that make them interesting are their affordable prices, their availability as over-the-counter medication and the perception that they are natural and safe products. In the USA, the term “dietary supplements” is used, while the European Union (EU) uses the term “food supplements” in its regulations. The FDA (Food and Drug Administration) categorizes melatonin as a dietary supplement, and the regulations applying to pharmaceuticals are not applicable to melatonin. In the USA, melatonin dosage is not limited, and melatonin supplements containing up to 10 mg can be found. In the EU, melatonin supplements contain less than 2 mg/unit; higher dosages are considered as drugs.

Simple and composite formulations of synthetic melatonin come in a wide range of forms such as tablets, pills, sublingual drops, liquids, gels, creams, and even suppositories, and at dosages from 0.1 mg to 400 mg. In the case of composite formulations, synthetic melatonin is presented together with other compounds such as tryptophan, vitamins (C, B6), minerals, and even collagen and hyaluronic acid in the case of creams. Lastly, some special preparations are available. These are formulations in the form of bi-layer tablets, with a fast action synthetic melatonin combined with a slow action plant extracts. The plants used in these formulations have relaxing, calmative, or sedative activities. Such plants include valerian (Valeriana officinalis L.), passionflower (Passiflora incarnata L.), scullcap (Scutelaria galericulata L./S. lateriflora L.), lemonbalm (Melissa officinalis L.), linden (Tilia platyphyllos L.), and Californian poppy (Eschscholzia californica Cham.). Aloe (Aloe vera L.), lavender (Lavandula angustifolia Miller), and avocado (Persea americana Miller) are used in creams. At present, five commercial formulations exclusively composed of phytomelatonin are known: 1). HerbatoninPRO Rice extract 0.3 mg (USA); 2. Sleep Support Tart cherry skins 15 μg, Tart cherry juice 3 μg (New Zealand); 3. Melatonin Vegetarian10 mg (Canada); 4. Curaderm system (diverse plants) - Body Cream (USA); 5. Fitomelatonina (diverse plants) - Cosmetic Cream (Italy). There is no evidence that there are experimental or clinical studies with these preparations rich in phytomelatonin. Even though the laboratories that market these formulations do not provide much information on their origin, it appears that in three cases synthetic melatonin is not used in these formulations.

So, a priori, using plants as a source of melatonin for therapeutic purposes would undoubtedly provide the assurance of avoiding multiple undesirable chemical by-products. However, at present there are no clinical or other tests that show the advantages of phytomelatonin in comparison with chemical melatonin. All this means that the research is in its initial stages; plant extracts rich in phytomelatonin and free of pesticides or other contaminants need to be obtained, so that clinical trials can be carried out to contrast the effects against those observed in studies made with chemical melatonin.