

## عنوان مقاله:

Molecular Mechanisms of Melatonin anti cancer activity in breast cancer mini review article

## محل انتشار:

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## خلاصه مقاله:

Melatonin is a natural hormone in body that produced mainly by the pineal gland at darkness. Melatonin secretion decreases with aging, The researchers showed that there is a low incidence of breast cancer in blind women, and an inverse relationship between breast cancer incidence and the visual impairment caused to pay more attention to melatonin as an effective agent duo to breast cancer, but why and how melatonin acts The purpose of this review is orientation with different molecular mechanisms of melatonin function in prevention and treatment of breast cancer. To open access the articles. we searched valid databases, first we determined mean key words, then identified equivalent terms and with use of appropriate operators, the formula was developed. At least, we selected articles about , molecular action of Melatonin in breast cancer and based on, the review was done. The results indicated that melatonin acts as a strong anti oxidant that prevents DNA against free radicals and carcinogens also protects it from damage. This hormone activates immune system by stimulate killer cells. In cellular functions, melatonin effects on breast cancer cells through MT1 receptors, the studies indicated that melatonin decreases the activity of estrogen receptors , increases the transcriptional activity of RAR alpha, inhibits MAPK cell signaling pathways , activates apoptosis through increases Bax expression, decreases the activity of ROR alpha , melatonin through decreases in SIRT1(Sirtuin1), activates PER1 and PER2 ,Period genes that produced period circadian protein , .melatonin has an anti metastatic effect through inhibit the P38 MAPK signaling pathways, so stop proliferation. In addition, telomerase activity is observed in 85%–90% of all cancers, melatonin has an anti telomerase activity., Conclusion: duo to the safety of melatonin and the wide molecular actions of it on breast cancer ,it seems that melatonin can be consider in programming and writing the guidelines to prevent and help to the treatment of breast cancer

## کلمات کلیدی:

molecular mechanisms, breast cancer, melatonin

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