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Research Article

### WELLIA-R tablets; helps to protect brain tissue in cerebral edema.

Govind Shukla, Nagalakshmi Yaparthy, D.Sruthi Rao, C.J. Sampath Kumar

*Oncowellness by Lactonova Nutripharm (P) Ltd, (Makers of Wellia-R tablets ), 81/3, IDA Mallapur, Hyderabad, Telangana, India-500*

Corresponding Author: Govind shukla

Email: [govindbbd@gmail.com](mailto:govindbbd@gmail.com)

#### ABSTRACT

Boswellia serrate extract in Wellia- R gained significant importance in treatment of cerebral edema in patients with brain tumors, colon cancer, lung cancer, blood cancer, skin cancer, breast cancer, renal cancer, fibro sarcoma, prostate cancer and pancreatic cancer. The medicinal properties of Boswellia serrate extract in Wellia- R have been known and utilized since antiquity. Its current potential as an anti inflammatory and anticancer agent are being investigated and hold great promise. This article reviews the current available scientific literature regarding the effect of wellia-R tablets, from Boswellia serrate extract that Provides long lasting cerebral protection in brain tumor patients.

**Keywords:** Wellia-R tablets, Boswellia Serrate extract, Cerebral protection, Brain tumor

#### INTRODUCTION

The medicinal properties of Boswellia serrate extract in Wellia- R have been known and utilized since antiquity. Its current potential as an anti inflammatory and anticancer agent are being investigated and hold great promise. The plant's active constituents are its boswellic acids extract in Wellia- R, especially pentacyclic triterpenic acids found in the gum resin contains 3 – Acetyl -11 – keto –  $\beta$  Boswellic Acid (AKBA), is considered the

most active and Powerful acid Potential anti-inflammatory and anti-cancer that Inhibits 5-lipoxygenase, human leukocyte elastase and nuclear factor- $\kappa$ B.AKBA can suppress STAT3 activation.Boswellia serrate extract in Wellia- R gained significant importance in treatment of cerebral edema in patients with brain tumors, colon cancer, lung cancer, blood cancer, skin cancer, breast cancer, renal cancer, fibro sarcoma, prostate cancer and pancreatic cancer [7].

## COMPOSITION OF WELLIA-R tablets



Each coated tablet contains:  
 Kunduru ghana (Exud.) 400 mg  
 (Boswellia Serrata Extract 25%)  
 Excipients Q.s

Nutritional Facts	
Serving size : 1 Tablet	Servings per pack : 30
Average Nutritional values per serving	
Energy	0.92kcal
Carbohydrates	0.2g
Total fats	0.00g
Protein	0.03g

### Mechanisms of Action of Boswellia serrate extract in Wellia- R tablets

An invitro study observed that acetyl-keto-beta-boswellic acid (AKBA) inhibits cellular growth in several colon cancer cell lines at the G1 phase. It was found that cyclin D1 and E, CDK 2 and -4, and phosphorylated Rb were decreased in AKBA-treated cells [2] in an effort to further understand the mechanism of Boswellia serrate extract in Wellia- R therapeutic effects, another in vitro study observed its effect on nuclear factor-kappaB (NF-κB) activity. AKBA in Wellia- R enhanced apoptosis induced by tumor necrosis factor-alpha (TNF-α) and chemotherapeutic agents, suppressed TNF-induced invasion, and inhibited receptor activator of NF-κB ligand-induced osteoclastogenesis, all actions that require NF-κB activation. AKBA in Wellia- R suppressed both inducible and constitutive NF-κB activation in tumor cells. It also eliminated NF-κB activation induced by TNF-α, interleukin-1beta (IL-1β), okadaic acid, doxorubicin, lipopolysaccharide, hydrogen peroxide, phorbolmyristate acetate, and cigarette smoke. This activity is not the result of direct action of AKBA in Wellia- R on NF-κB, but rather through inhibition of NF-κB-regulated gene expression [3]

### Wellia-R tablets as Immunomodulator [8]

- Enhances cell mediated and humoral antibody synthesis.
- Inhibits proliferative responsiveness of splenocytes to mitogens and alloantigen.
- Delays delayed type hypersensitivity (DTH).
- Inhibits nuclear factor-κB pathway.

### Wellia-R tablets as anti cancer, anti carcinogenic, and anti tumor?

- Potentiates apoptosis, inhibits invasion.
- Abolishes osteoclastogenesis in human cancer cell lines.
- Inhibits cell proliferation and growth inhibition
- It is a catalytic inhibitor of topoisomerase [9]
- Causes demethylation and reactivation of putative tumor suppressor genes [10]

### Clinical Study Reports on Boswellia serrate extract in Wellia- R tablets

A randomized, placebo-controlled, double-blinded, pilot study was conducted on 44 patients with either primary or secondary malignant brain tumors undergoing radiotherapy. In addition to the radiotherapy, the participants were given either 4,200 mg/day of Boswellia serrate extract in Wellia- R or placebo for one week. The primary

objective was to observe any change in cerebral edema, as measured by T2-weighted magnetic resonance imaging (MRI), after using *Boswellia serrate* extract in Wellia- R compared to placebo. Researchers observed that 60 percent of patients on *Boswellia serrate* extract in Wellia- R experienced 75-percent or greater reduction in cerebral edema; only 26 percent in the placebo group experienced a similar reduction in edema[4]

In another study, 12 patients with brain tumors and progressive edema caused by tumor progression or radiochemotherapy-related leukoencephalopathy were treated with a preparation of *Boswellia serrate* extract in Wellia- R at a dosage of 1,200 mg three times daily for at least four weeks. All patients tolerated the preparation well. Reduced edema was observed in two of seven patients with glioblastoma and in three out of five patients with treatment-related leukoencephalopathy. All patients with leukoencephalopathy improved clinically for several months[5].

#### **Pharmacokinetics of *Boswellia serrate* extract in Wellia- R tablets**

A study was conducted to determine the metabolism of boswellic acids (BAs) extract in Wellia- R particularly 11-keto-beta-boswellic acid (KBA) and AKBA – in vitro and in vivo. This study determined the metabolic stability of KBA and AKBA in Wellia- R in vitro investigated the in vitro metabolism of BAs, and compared the metabolic profiles of KBA and AKBA in Wellia- R with those obtained in rats in vivo. Researchers observed that KBA, but not AKBA, undergoes extensive phase I metabolism in both human and rat liver microsomes, and that this is accomplished

primarily via oxidation to hydroxylated metabolites. Metabolic profiles of KBA from rat plasma and liver yielded in vitro were similar to in vivo. No metabolites of AKBA, however, could be identified in vivo. It was further observed that AKBA is not deacetylated to KBA. This study suggests the efficacy of *Boswellia serrate* extract in Wellia- R may be enhanced by increasing the bioavailability of AKBA [5].

#### **Recommended Usage**

One tablet per day or as Directed by Healthcare practitioner

#### **SUMMARY and CONCLUSION**

Cancer is the worldwide health problem and the most frightening disease of human and it's become the second leading cause of human mortality after cardiovascular diseases. According to WHO, cancer accounted for 7.8 million deaths in 2007, with 38% in developed countries and 62% in developing countries. Cancer is one of the leading causes of death in both developed and developing countries and is consequently, has posed an immense challenge in front of medicinal chemist . Anticancer drugs discovered from herbal medicines have a long history. In the current scenario, there is a real need to develop the novel anticancer drugs which is safe or cost effective with effective mechanism. The new mode of developing combined components from effective traditional formulas and from single standard ingredient under traditional medicine theory, unlike the conventional way of clinic experience based drug development should be focused & Wellia-R tablets have shown promising results in cancer therapy to protect brain tissue in cerebral edema.

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