



REVIEW ON HERBAL PLANT USED IN TREATMENT OF CANCER

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ABSTRACT

Improper cell growth is one of the diseases known as cancer .Lumps , persistent bleeding, persistent cough, unexplained weight gain, and changes in bowel movements are examples of common symptoms and signs. These symptoms may indicate cancer or may be caused by other conditions. In recent years, concerns about side effects have led to an increased. Because they are more effective and less dangerous than traditional medicine. The main purpose of this review is to reveal the potential of drugs recently obtained from medicinal plant. The current study is good analysis of data referenced in various papers. This compilation helps scientists and researchers around the world study the therapeutic benefits of herbal plant against cancer and use them to develop new drugs.

Keywords: drug discovery, cancer, symptoms, diseases, and traditional medicine

INTRODUCTION

Non-communicable diseases (NCDs) account for 74% of all premature deaths worldwide, with 22.68 percent being caused by them. just the result of cancer (WHO 2022).

Cancer is a collection of diseases rather than a single one. more than 100 illnesses with various causes, signs and the tissues that are affected. Cancer appears when the typical development, growth, and death of Mutations in cell genes cause changes in tissues. Unchecked cell proliferation typically results in the development of tumors, which are masses of tissues. Benign tumors are those that stay localized in the body. In most cases, the body is not seriously harmed by these tumors. However, certain others have the potential to spread to other bodily regions and cause major issues with the system. We refer to these as malignancies or malignant tumors.

In several other situations, malignant cells never develop into a solid mass but instead have the ability to travel to different bodily areas (such as myomas, leukemias, and numerous lymphoma ¹

Cancer Types:

1. Depending on the Affected Tissue:

- Symptoms of cancer; These are cells that line the inside and outside of the body, including breast, colon and lung cancer.
- Cells in bone, cartilage, fat, tissue, muscle, and other tissues are referred to as sarcomas.
- Lymphomas are cancers that originate in the blood and immune systems. The cancer, called leukemia, starts in the bone marrow and often spreads to the blood vessels. Cancers called adenomas may develop in pituitary, adrenal, thyroid and other cancers.

2. Based on the Affected Organs

- Hepatic Cancer
- Lung Cancer
- stomach cancer

- Breast Cancer
- Colorectal cancer
- Stomach cancer is not Hodgkin hemolysis
- malignancies of the mouth and lips
- Cancer of the Nasopharynx
- Sarcoma Kaposi

Cancer symptoms:

- These vary depending on the kind and stage of the disease. Lung cancer, for instance, can result in breathing difficulties, chest pain, or coughing. Often, diarrhea, constipation, and blood are symptoms of colon cancer. Certain cancers may present with no symptoms at all.
- It is common for symptoms of some cancers, like pancreatic cancer, to appear only after the disease has progressed to an advanced stage.
- The majority of cancers can cause the following symptoms:
- Feeling cold
- High temperature
- appetite decline
- Sickness
- Sweats at night
- Loss of weight
- enlargement or thickening of the body
- persistent coughing or headaches
- noticeable alteration to a mole or
- Modifications to bowel or bladder routines
- unexplained discharge or bleeding Any wound that refuses to go away
- Unusual stomach discomfort or trouble

Cancer Causes:

- Cancer develops from the body's normal cells. When the body needs normal cells, they proliferate; when not, they die. It seems that unchecked cell growth and excessive cell division in the body lead to cancer.
- Cancer can take many different forms. Almost anyThe development of cancer can occur in any organ or tissue, including the skin, bones, breast, colon, lung, and nerve tissue. Multiple factors can cause cancer such as:
- Benzene and additional substances
- consuming too much alcohol
- Environmental toxins, including some deadly mushrooms and an aflatoxins-like poison that grows on peanut plants
- Overexposure to sunlight
- genetic issues
- Being overweight
- Pathogens ²

MANAGEMENT OF CANCER

A. Treatment Of Cancer

In most circumstances, cancer is not regarded as a sickness that can be cured. Prior to deciding on a particular treatment plan, factors such as the patient's condition, cancer kind and stage, etc. are taken into account. This work can benefit from the testing of cancer-specific biomarkers. Different approaches and methods are used in conjunction to treat different types of cancer. Cutting (surgery), radiological burn (radiotherapy), The application of various anti-cancer medications (chemotherapy), radiation, hormone treatment, photosynthetic therapy, stem cell replacement, immunotherapy, and targeted therapy, immunization against bacteria that cause cancer, and surgery are the noteworthy treatments for various cancers that are currently available, either separately or in various combinations (IARC 2018, Amjad et al. (2022) If cancer treatment is initiated in its early stages, a cure may be possible.³

B. Cancer prevention and control

The majority of it is possible to prevent cases of cancer. According to the World Cancer Research Fund (WCRF) and the International Agency for Research on Cancer (IARC), between 30 and 50 percent of cancer cases can be prevented by following a healthy diet and controlled lifestyle (WCRF 2018, Li et al. 2020a, Zhang et al. 2020a). It is necessary to analyze the different approaches cancer control in order to determine the most effective means of battling that terrible illness.⁴

MANY PLANTS APPLIED IN THE TREATING OF CANCER

A BREAST CANCER

The most common cancer to be diagnosed is breast malignancy and the reason behind women's global breast cancer-related deaths. Discovering effective therapies with minimal side effects are desperately required to lighten this load. An expanding collection of studies suggest that plant based chemicals could be highly efficient.⁵

Justicia Adhatoda

Known by several names, including Malabar or Vasaka Justicia Adhatoda. Using the breast cancer line MCF-7 as the focal point, an early study assessed the anticancer properties of Justicia Adhatoda leaf extract.⁶



Fig. 1 Justicia Adhatoda

Synonyms

- Adeloda serrata Raf
- Gendarussa Adhatoda
- Adhatoda vasica Nee

Chemical Composition

- The leaves of justicia Adhatoda contain phytochemicals such as alkaloids, tannins, and saponins.

Scientific Classifications

Plantae belongs to the Kingdom,

Tracheophytes is the Phylum,

Group. : Acanthacead;

Order. : Lamiales;

Genus. :Justici

Classification: J. Adhatoda ⁶

African Kigelia

Kigeliaafricana, a medicinal plant, is identified by pendulous racemes of vibrant flowers and fruit with a long stem with a giant gourd-like appearance. According to a study, this plant was used in an effort to combat cancer. The drug sulforhodamine (SRB) assay evaluated the extracts' anti-cancer properties in vitro. against a cell line that is human breast cancer ⁷



Fig. 2 African Kigelia

Synonyms

- Kigelia africana

Chemical Composition :

- Stigmasterol
- B- sitosterol
- Ferulic acid
- Naphthoquinones lapachol
- 6- methoxymellein

Scientific Organization:

Kingdom: Plantae;

Phylum: Eudicots;

Order: Lamiales;

Family: Bignoniaceae

Genus: Kigelia DC.

Kind: K. africana;

Clade: Asterids ⁷

Vanda spathulata

The lovely orchidaceous *Vanda spathulata* (L.) Spreng plant is also known by the common names *Vanda spathulata* Bandana or *Svarna-pushpabandaa*. VIII. leaf extracts from *Spathulata* on MCF-7 cell proliferation and apoptosis were investigated to see if they had anticancer properties. The leaves were extracted using methanol. antitumor activity was investigated



Fig . 3 *Vanda spathulata*

Synonyms :

- *Phytoplankton spathulata* (L) Christensen
- *Limodorum spathulatum* (L) Willd.
- *Cymbidium spathulatum* (*Epidendrum spathulatum* Sunset
- *Vanda spathulata* (L) Spreng

Chemical Composition

- Alkaloids
- Glucoside
- Tannins
- B-sitosterol

Scientific Categorization

- Plantae belongs to the Kingdom and the Monocots Phylum.
- Asparagales are in order.
- Under the Orchidaceae family
- Classification: Epidendroideae
- Vandea is the tribe's
- Aeridina is the subtribe.
- Christenson *T.spathulata* is the species identified as Taprobane in the Genus ⁸

Grangeamaderaspat

There are only six species in the genus *Grangea* of the Compositae (*Asteraceae*) family, and the majority are indigenous to Africa, South Asia, and Asia in the Southeast. Among the most widely used medicinal plants, *Grangea Maderaspatana* is a herb used in traditional Thai medicine. reduce The MTT test was used to measure the cytotoxic activity of breast cancer cell line.²⁰



Fig. 4 Grangeamaderaspat

Synonyms

- *Grangea maderaspatana*

Chemical composition

- α -humulene (%46.3)
- β -caryophyllene (%9.3)
- α -küben (%8.2)
- β -mirsen (%4.3)
- Farnesene (%3.7)
- Karralen (%3.5)

Classification Based on Science

Plantae are members of the Kingdom

Classification: Angiosperms

Classification: Aster

Order : Asterales;

Family : Asteraceae

Classification: Grangea

Type species: *G. maderaspatana* ⁹

B.LIVER CANCER :

The condition known as hepatitis, or liver disease, is an inflammation of the liver. Aflatoxin producing bacteria, viruses, prolonged alcohol consumption, and medications that enter the body in different ways can all be harmful to hepatic function. Toxins are regularly exposed to these organs. since the liver is involved in multiple metabolic processes. These substances will be made inactive and detoxified, allowing them to won't harm the human body. Chemotherapy, radiation, hormone therapy, immunological therapy, and surgery have all had differing degrees of success in the fight against cancer. treat cancer. In line with conventional Many medicinal herbs have been claimed to have an anti-cancer effect based on conventional wisdom and preliminary research.¹⁰

Auriculata Cassia

The antioxidant and anticancer qualities of *Cassia auriculata* flower extracts were first documented in methanol and acetone. Antioxidants' potency was examined in relation to DPPH and hydroxyl free radicals. The suppressor was applied to test the anticancer drug on cell lines of liver cancer. action. The antioxidant activity of methanol extract was higher. compared to acetone against the DPPH free radical (IC₅₀: 46.28 g/ml).52.60 g/ml (IC₅₀) for extract. Among these, methanol extract has a notable antioxidant and antitumor effects.



Fig . 5 Auriculata Cassia

Synonyms

- Cassia Auriculata L.
- Cassia densistipulata Taub.

Scientific Organization:

Kingdom: Plantae

Clade : Angiosperms

Clade. : Tracheophytes

Order. : Fabales

Family. : Fabaceae.

Genus: Senna

Name of species: Senna Auriculata (L.)Roxin¹¹

Curcumin:

The primary curcuminoid present in turmeric, Popular Indian spice (*Curcuma longa* L.), a member of the Zingiberaceae family, is called curcumin. There have been uses for turmeric in herbal remedy to prevent parasitic infections, jaundice, and other liver diseases among other things, ulcers, inflammation in the joints, and different skin conditions[9, 10]. Turmeric contains a class of structurally related phenolic compounds called curcuminoids.



Fig.6 Curcumin

Synonyms

- Indian Saffron
- Turmeric

Biological Sources

- The dried rhizome of *Curcuma longa* Linn plant is known as turmeric (Sin. C. Domestica Valetton).
- The zingiberaceae family

Geographical Source:

The plant is widely grown in temperate regions, but it is native to southern Asia. Larger-scale cultivation takes place in Malaya, Pakistan, China, India, and the East Indies.

Chemical Test:

1. Curcumin powder becomes red in color after being treated with concentrated sulfuric acid.
2. Paper with borax solution containing turmeric extract in green color.
3. It turns red with the addition of boric acid and changes color with the addition of alkali.¹²

Silibinin :

The polyphenolic flavonoid silibinin is the most biologically active ingredient in milk thistle. Many people are aware of milk thistle's health advantages, tolerability, and capacity to shield the liver from harm caused by drugs or alcohol [8], [12]. Silibinin in its unprocessed state, silymarin, are used to treat liver toxicity in both dietary and medicinal supplements. An. It was discovered that silibinin significantly inhibited both HepG2 and Hep3B cell



Fig. 7 Silibinin

Synonym

- *Carduus marianus* L.

Geographical Source

Thistle is native around the Mediterranean and across Europe to Central Asia and India; It reaches as far south as Ethiopia in Africa. It is probably native to England off the coast of south-eastern England. *S. marianum* has spread beyond its native range.¹³

IIA Tanshinone

One of the most often isolated diterpenes from *Salvia miltiorrhiza* Bunge (also known as Danshen in Chinese) is tanshinone IIA. There are antioxidant qualities to tanshinone IIA [60] as well as the capacity to protect against and/or stop myocardial infarction and angina pectoris [61]. Cytotoxic effects and inhibition of proliferation in cell lines derived from different humans There have been reports of carcinomas [12]. Tanshinone IIA caused apoptosis and slowed down the growth of cells in BEL-7402 units .



Fig. 8 IIA Tanshinone

Scientific classification

- Kingdom. : Nroj tsuag
- Phylum. : Tracheophytes
- Phylum. : Angiosperms
- Phylum. : Eudicots
- Phylum. : Asteridler
- Order. : Lamiales
- Tsev neeg. : Lamiaceae
- Cins. : Saliva
- Species. : *Salvia miltiorrhiza*

Binomial Name

- *Salvia miltiorrhiza*

Chemical composition ;

- Salvianolic acid
- Dihydrotanshinone
- Miltirone
- Tanshinone I
- Tanshinone IIA

Geographical Source :

- Native to china and japan ¹⁴

Asphodia sabdariffa L.

This *Hibiscus sabdariffa* Linn. belongs to the family Malvaceae. In order to determine whether the solid derived from the *Hibiscus Sabdariffa* ethyl acetate fraction, in vitro anticancer In a previously published study, activity was carried out. HepG2 cells were used to test different dosages of the L flower extract line. The MTT is a reliable method for confirming cytotoxicity. Tetrazolium bromide (MethylThiazolyl diphenyl) assay for indicators and cell viability.



Fig. 9 Asphodia sabdariffa L.

Classification in science

Type: Botanical

Class: Eudicots

Class: Rosids

Malvaceae is the order.

Family: Malvaceae

Malvaceae Genus Subfamily.

One kind of mallow is Sabdariffa.

Synonyms

- Bertolt Abelmoschus Cruentus
- Furcaria Walp Sabdariffa Ulbr.
- Cruentus Hibiscus Bertol.
- Digitarius Hibiscus Cav.
- Botryomycosis fraternus L.
- Bill's Hibiscus palmstilobis.
- H. Sabdariffa L. Hibiscus

Chemical Composition

- Polyphonic compounds
- Neochlorogenic acid
- Chlorogenic acid
- Flavonoids
- Protocatechuic acid
- Chrysanthemum

Biological Sources

It is indigenous to Asia (India), Malaysia and tropical Nigerian. ¹⁵

C.PROSTATE CANCER

As of 2021, there were 608,570 cancer-related deaths and 1,898,160 newly diagnosed cases [1,2]. Globally, the average age at the time of diagnosis for prostate cancer is 66 years old, and this correlates with an increased risk of death [3]. Although it is anticipated that there will be 2,293,818 new cases by 2040, a rise of 1.05% in mortality [4]. Prostatic acid phosphatase was the first to be regularly used for prostate cancer diagnosis and staging. ¹⁶

LYCOPENE

The majority of in vivo research has validated lycopene's anti-cancer properties, especially with regard to prostate cancer. Studies on humans and animals have demonstrated the impact of lycopene on certain cancer markers; however, the relative contributions of different mechanisms appear to vary on the location of the tumor organs. r. Only prostate cancer was the subject of human studies on the role of lycopene in cancer treatment with the majority of these studies (7 out of 10) confirming the beneficial effects. Research demonstrated that lycopene enhanced the results of treatment for locally advanced prostate cancer.



Fig.10 LYCOPENE

- *Solanum lycopersicum* is the binomial name.

Synonyms

Mill: *Lycopersicon esculentum*.

Lycopersicon lycopersicum

Classification in Science

Kingdom : Plantae

Phylum : Tracheophytes

Classification : Eudicots

Classification : Solanales;

Family : Solanaceae

Solanum is the genera

The species is *S. Lycopersicum*.

Chemical Composition

High concentration of various antioxidants, including bioactive phenolic compounds (quercetin, kaempferol, naringenin, and chlorogenic acid), ascorbic acid (vitamin C), tocopherols (vitamin E), and carotenoids (B-carotenoids and lycopene).¹⁷

Fragrant Combretum

One member of the Combretaceae family is *Combretum fragrans*. It is A study found that prostate cancer (PC-3) The anticancer activity was evaluated using cell lines and mechanism of action of a stem bark methanolic extract of *Combretum aromaticum*.⁴⁸



Fig.11 Fragrant Combretum

Scientific classification

Plantae is the kingdom.

Angiosperms are the Clade

Clade: Rosids;

Clade: Eudicots

Family: Combretaceae;

Order: Myrtales

Class: Combretum

C. indicum is the species.

Binomial Name

- *Combretum indicum*

Alternative names

- *Kleinia quadricolor* Crantz
- *Ebracteata* p.Beauv
- *Quisqualis indica* L
- *Quisqualis sinensis* Lindl
- *Quisqualis villosa* Roxb¹⁸

Eichhornia crassipes

Water hyacinth is the logical title for *Eichhornia crassipes* (Pontederiaceae). Henrietta Lacks (HeLa), the Michigan Cancer Foundation-7 (MCF-7), and European ECACC (Collection of Authenticated Cell Cultures) According to HepG2 cell lines, crude methanol from whole plants The extracts had a high level of effectiveness. While keeping the T47D cell intact line from harm, the leaf extract in water of The NCI-H322 cell line was inhibited by *Eichhorniacrassipes*.



Fig. 12 *Eichhornia crassipes*

Binomial Name

- Pontederiaceae spp.

Other Name:

- *Eichhornia cordifolia* Gand;
- *Eichhornia crassipes* (Mart.) Solms
- *Piaropus Crassipes* (Mart.) Raf.

Chemical Composition

- Sterols
- Alkaloids
- Phenolic
- Flavonoids
- Tannins
- Saponins

Scientific Classification

Kingdom: Nroj tsuag

Phylum: Tracheophyte

Phylum: Monocots

Phylum: Commelinidler

Commelinales Order:

Family: Pontederiaceae

Class: Pontederia

P. crassipes is the species.¹⁸⁻²⁰

Prunus africana

Prunus africana, a member of the Rosaceae family, is a herb with strong anti-prostate cancer qualities. The consequences of 70% ethanolic root extracts from micropropagated six-month-old The more popular therapy option is *Prunusafricana* (PIR). traditional Stem Bark Extract (PWS) from *Prunus Africana* Prostate cancer PC-3 cells in vitro. Annexin-V labeling with DAPI along with western blotting, propidium iodide staining.



Fig . 13 Prunus africana

Binomial Name :

- African prunus

Other names :

- Pygeum africanum Hauman,
- Pygeum crassifolium Kanca.f.
- Prunus crassifolia

Chemical Composition

- Atranorin
- Atraric acid
- Beta- sitosterol and their Ester
- Ferulic acid and its Ester
- N- butylbenzene sulfonamide

Scientific Classification

Kingdom: Plantaceae

Phylum: Tracheophyta

Phylum: Angiosperms

Phylum: Dicotyledons

Classification: Rosids

Rosales belongs to the Order

Family: Rosaceae.

Plant Genus: Prunus

Prunus sub Cerasus is the subgenus.²⁰⁻²⁵

D.LUNG CANCER

Globally, lung cancer ranks among the top causes of mortality for both men and women. There exist two varieties of lung cancer based on clinical and biochemical features performance: lung cancer, including small and non-small cell. tiny-cell 15–20% of lung cancer cases are lung cancer; within 20% of cases in this category are smokers. Non-small-cell lung 80–85% of lung cancer cases are caused by cancer, which can be further divided into squamous cell carcinoma and adenocarcinoma big cell carcinoma and carcinoma²³⁻²⁵

Alnus Nitida

Alnus Nitida is a member of the Betulaceae family. A549 and H460, two cell lines for lung cancer (human non-small cell lines), were examined for Methanol-induced growth inhibition. Extracts from Alnus nitida leaves and stem bark. Both cancer cell lines' growth was noticeably slowed down. Growth following therapy. The cancer cell lines A549 and H460" exposure to ANL and ANB reduced colony formation and cell migration.



Fig . 14 Alnus Nitida

Binomial Name

- alnus nitida

Synonyms

- Clethropsis nitida Spach

Chemical Composition

- Alkaloids
- Coumarin
- Tannins
- Saponins
- Flavonoids

Scientific Classification

Plantae is the Kingdom

The Tracheophytes phylum

Phylum : Eudicots

Phylum : Rosids

Arrangement : Fagales

Betulaceae family

Alnus is the genus

A. nitida is a species.²⁵⁻³⁰

Clerodendrum Fragrans

Clerodendrum fragrans is a sesuvium plant that belongs to the Lamiaceae family. Tetrazolium test MTT was utilized to evaluate Clerodendrum fragrans's antitumor potential fractions and extracts against lung cancer cells A549.



Fig .15 Clerodendrum fragrance

Binomial Name

- Clerodendrum chinense

Synonyms

- Agricolaea fragrans (ventilation) schrank
- Volkmannia japonica jacq
- Volkameria fragrans ventilation
- Ovieda fragrans (ventilation) Hitchc

Scientific Organization

Plantae is the kingdom.

Category: Phytoplankton

Class: Asterids; Class: Eudicots

Arrangement: Lamiale

Lamiaceae family

Cladedrendrum in genus

C.chinense is a species. ³⁰⁻³⁴

Cardiospermum Halicacabum

The plant *Cardiospermum halicacabum* belongs to the Sapindaceae family. The alternative term for it is balloon vines, and it grows well in tropical and subtropical climates. Anticancer *Cardiospermum Halicacabum* Utilizing an inverted phase, activity against A549 was evaluated. using an MTT test and a contrast microscope to identify the antitumor action.



Fig. 16 Cardiospermum halicacabum

Scientific Classification

Kingdom: Plantaceae

Phylum: Angiosperms

Phylum: Dicotyledons

Phylum: Rosids

Order: Sapindales

Tsev neeg: Sapindaceae

Cardiospermum is the genus
and species. C.halicacabum

Binomial Name

- *Cardiospermum halicacabum* L.

Synonyms

- Balloon weed
- Heart-shaped pea
- In a nutshell, love
- Puffball
- Winter cherry
- Smooth- leaved Heart-shaped seed

Chemical Composition

- The acid palmitic
- oleic acid
- acid stearic
- linoleic acid
- eicosenoic acid ³⁴⁻³⁸

Alangium Longiflorum

Alangium longiflorum (family: Alangiaceae) is also known as malatapai in Borneo and the Philippines. The longiflorum alangium possesses cytotoxic action on the breast and lung of a human (A549) (MCF-7) cancer cells.



Fig . 17 Alangium Longiflorum

Binomial Name

- *Alangium Longiflorum*

Synonyms

- *Alangium hirsutum* Bloemb

- Alangium Longiflorum

Scientific Classification :

Kingdom: Plantaceae

Phylum: Aster

Order: Cornales

Family: Cannaceae

Genus: Alangium

Species: A.longiflorum³⁸⁻⁴⁰

Cuscuta Reflexa

In the Unani medical system, the Cuscuta Reflexa (Family: Cuscutaceae) plant is thought to be the most significant and is utilized in conventional medicine to treat diseases including cancer illnesses. To evaluate the antitumor efficaciousness of Cuscuta flexa extracts made with the cell line H-129 the anticancer properties of the fractions of each extract obtained by Analysis of flash chromatography was done. Furthermore, every Antioxidant activity of the fraction was examined.



Fig .18 Cuscuta Reflexa

Binomial Name :

- Cuscuta reflexa

Synonyms

- Cuscuta elatior Choisy
- Cuscuta reflexa var.grandiflora Engelmann
- Cuscuta verrucosa Sweet
- Kadurias reflexa (Roxb).Rafin
- Monogynella reflexa (Roxb.)J. Holub

Chemical Composition

- Flavonoids
- Coumarins
- Phenylpropanoids
- Triterpenoids
- Cardiac glycoside

Scientific Classification

Kingdom: Plantae

Phylum: Tracheophyta

Phylum: Angiosperms

Phylum: Dicotyledons
Phylum: Aster
Order: Solanaceae
Family: Convolvulaceae
genus. : Cuscuta
Species : C.reflexa⁴⁰⁻⁴²

CONCLUSION

The use of herbal remedies derived from plant extracts is growing. It is used to treat many conditions, including cancer. Herbal treatments are utilized for a considerable proportion of patients suffering from or cancer. In the future, systematic methodological advancements will be required to distinguish the true healing potential of this drug from the irrational expectations surrounding them. The dynamic It is necessary to separate molecules and test them in carefully thought-out experiments, along with randomized trials, to allow for equitable clinical application of the agents. A number of isolated lead There are molecules that have been found that, with further research, may result in the development Of possible cancer protective medications. reliable and well-managed clinical trials using herbs, Particularly their active components, are essential in cancer or illnesses to find innovative anti-inflammatory and anti-fibrotic behaviors. Herbal medicine's potential Herbal medicine will become a highly justifiable scientific treatment regimen with the support of rigorous research based on evidence-based treatment. This requires testing and clinical trials.

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