

# Formulations

## Resveratrol 25

€44,90\*

**Item number:** 08165601 | **Contents:** 2.5 ml | **Base price:** € 1400 / 100 ml | **Available only in pharmacies**

**Dosage form:** Concentrate for infusion for intravenous use after dilution exclusively in 100 ml of 0.9% NaCl.

**Ingredients:** Resveratrol 25 mg, Hydroxypropyl-beta-Cyclodextrin q.s., PEG 400 q.s., Water

**Note:** Store away from light at 2 – 8°C | **Shelf life:** 12 months

## Resveratrol 100

€149,90\*

**Item number:** 08165530 | **Contents:** 10 ml | **Base price:** € 1290 / 100 ml | **Available only in pharmacies**

**Dosage form:** Concentrate for infusion for intravenous use after dilution exclusively in 500 ml of 0.9% NaCl.

**Ingredients:** Resveratrol 100 mg, Hydroxypropyl-beta-Cyclodextrin q.s., PEG 400 q.s., Water

**Note:** Store away from light at 2 – 8°C | **Shelf life:** 12 months

## Curcumin-Resveratrol 100/50 mg

€129,90\*

**Item number:** 08165544 | **Contents:** 20 ml | **Base price:** € 549.50 / 100 ml | **Available only in pharmacies**

**Dosage form:** Concentrate for infusion for intravenous use after dilution exclusively in 500 ml of 0.9% NaCl.

**Ingredients:** Curcumin 100 mg, Resveratrol 50 mg, Hydroxypropyl-beta-Cyclodextrin q.s., PEG 400 q.s., Water

**Note:** Store away from light at 15 – 25°C | **Shelf life:** 6 months

You do not need any special infusion equipment and do not need to administer cortisone beforehand. Container for low-germ removal as a single dose by a healthcare professional. Use after dilution in sterile isotonic saline solution. Intended for immediate consumption.

### Do not use these formulations in the following cases:

- Kidney damage
- In patients under 2 years of age
- If there are known intolerances to any of the ingredients ( )
- CAVE: When taken together with anticoagulants, blood thinners or non-steroidal anti-inflammatory drugs, there may be an increased tendency to bleed.

### Dosage (based on previous therapeutic experience, indication assessment and further therapy):

1-2 times per week for 10 applications/treatment cycle, repeat as needed.

# Ordering options

Viktoria Apotheke Saarbrücken | SHIPPING | Bahnhofstr. 95–97 | 66111 Saarbrücken

• **Online order:** [www.internet-apotheke.de](http://www.internet-apotheke.de)

• **E-mail order:** [bestellung@internet-apotheke.de](mailto:bestellung@internet-apotheke.de)

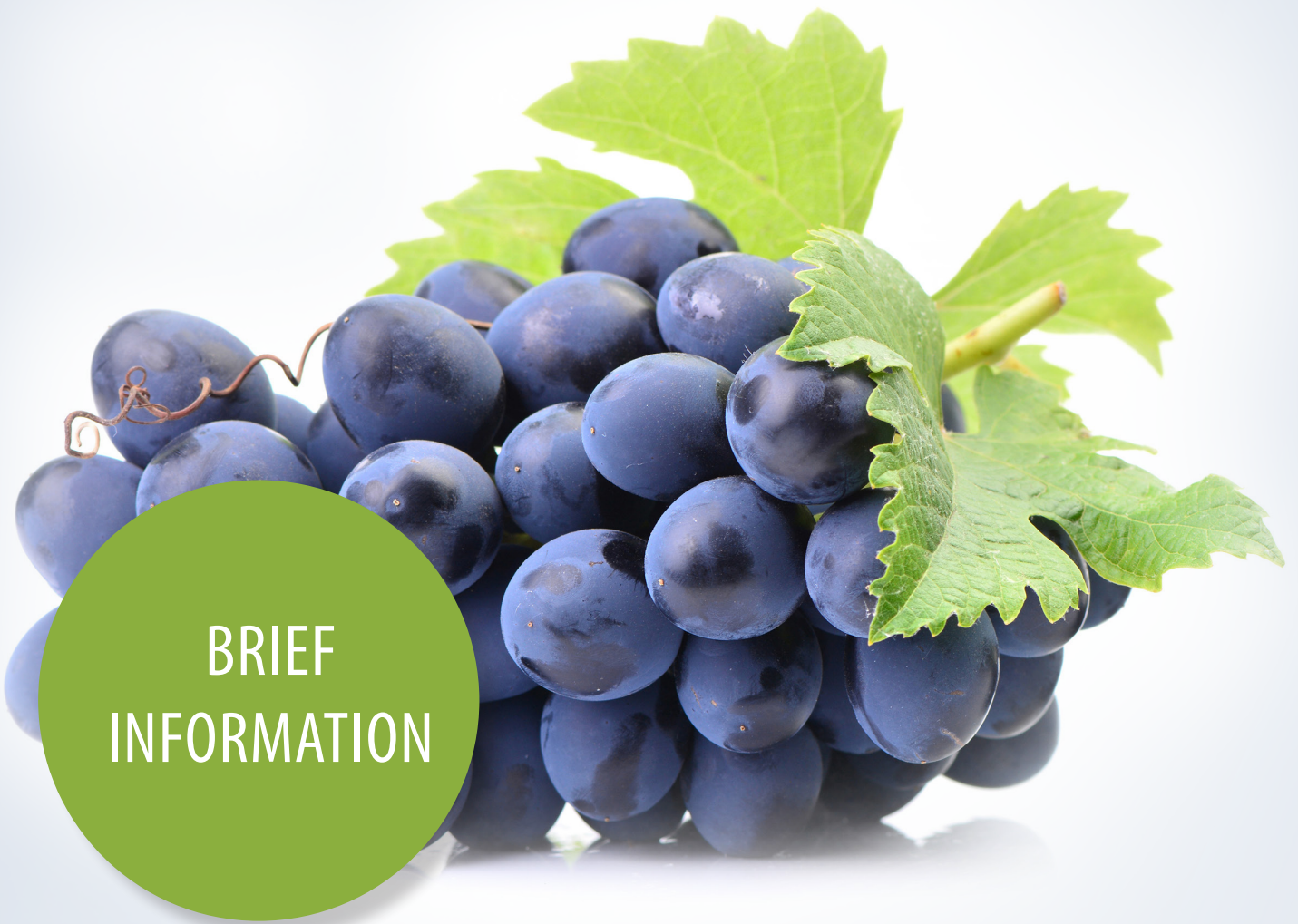
• **Fax order:** +49 (0) 681 – 91 00 55 029

\*All prices include VAT and, where applicable, exclude shipping costs. Please submit your original prescriptions for compounded formulations. Further information can be found in the General Terms and Conditions at [www.internet-apotheke.de](http://www.internet-apotheke.de). Please note that registration for the healthcare professional area is required.

# Sources

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# RESVERATROL



BRIEF  
INFORMATION



Viktoria Apotheke  
Dr. Fritz Trennheuser

# Resveratrol

Resveratrol (trans-3,4',5-trihydroxystilbene) is a polyphenolic phytoalexin and is produced in plants as a stress-response to ozone, sunlight, heavy metals and infections with pathogenic microorganisms by stilbene synthase. In contrast to the best-known source of resveratrol, the skin of red grapes, it occurs in therapeutically effective doses in the root of *Polygonum cuspidatum* (Japanese knotweed) [1]. This fact and its therapeutic effect still lead to its use in traditional Japanese and Chinese medicine today [2,3]. Resveratrol is also found in fruits such as blueberries, raspberries and peanuts.

In our formulations, we only use pure resveratrol from a natural source.

# Areas of application

In addition to its health-promoting effects in preventive medicine, resveratrol is used in the treatment of coronary and cardiovascular, inflammatory and neurodegenerative diseases. The use of resveratrol in age-related, metabolic and autoimmune diseases as well as in cancer is also under discussion [4-6]. The development of many of these diseases can be attributed to increasing or high oxidative radical stress.

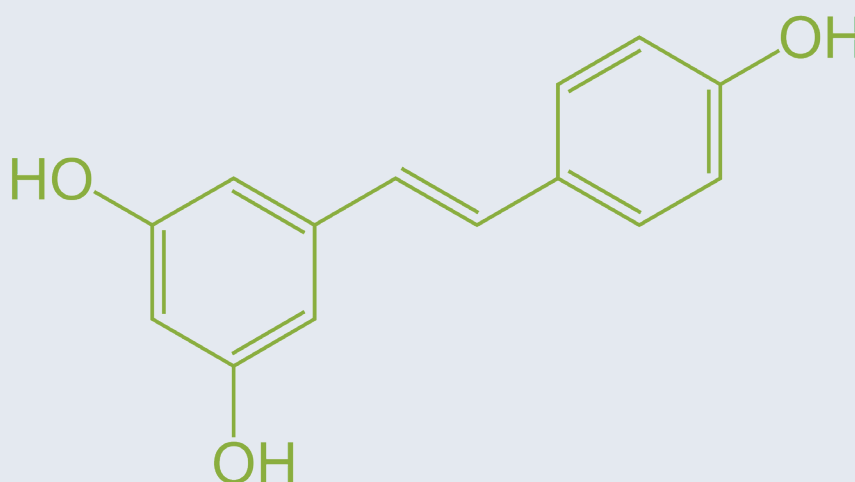
Like curcumin and artesunate, resveratrol is considered a promising adjuvant therapy approach for treating these serious diseases more effectively.

# Mode of action

The best-known property of resveratrol is its ability to scavenge oxygen radicals (ROS) [7]. Resveratrol achieves this directly through its molecular structure and indirectly through its influence at the epigenetic level [8-10].

The reduction of radical load through its antioxidant effect, the inhibition of inflammatory processes through the inhibition of pro-inflammatory enzymes, and the modulation of metabolic pathways through positive regulation of glucose and fat metabolism make resveratrol a useful therapeutic supplement in practice. Due to these influences, resveratrol has become highly relevant in preventive medicine. The following effects are described in a large number of studies [4-6]:

- anti-oxidative, anti-inflammatory
- vasodilatory
- neuroprotective and cardioprotective
- anti-arthritic
- anti-arteriosclerotic
- anti-carcinogenic
- anti-tumoural
- radiation and chemosensitising
- radiation and chemoprotective



## Resveratrol in cancer therapy

The survival and growth of tumours is due to the deregulation of growth inhibition and resistance to programmed cell death. The overexpression of growth and transcription factors and the inhibition of cell regulation mechanisms play a major role in this process. Resveratrol has the ability to intervene precisely in these processes and to reduce tumour growth by inducing pro-apoptotic gene products and inhibiting anti-apoptotic regulators [11,12].

In addition, numerous in vitro and in vivo studies describe the inhibition of tumour initiation, promotion and progression by resveratrol, thereby qualifying it for the prevention and treatment of various types of tumours [13-17].

Resveratrol showed anti-proliferative and apoptotic effects in vivo in cervical cancer cells [18]. Resveratrol also had an anti-cancer effect in pancreatic carcinoma cells [19]. By inhibiting NF- $\kappa$ B, which is upregulated in cancer cells, resveratrol was able to reduce resistance to chemotherapy [20-22]. Resveratrol demonstrated this effect against breast cancer and pancreatic carcinoma [19,23]. Resveratrol was also able to reduce cisplatin-induced nephrotoxicity [24]. Studies generally describe a cancer-preventive effect in colon, cervical, prostate, breast and lung carcinomas [16,25-30].

Furthermore, this anti-proliferative effect of resveratrol can be used prior to surgical removal to reduce volume and to curb metastasis as a consequence of this procedure. On the other hand, resveratrol can have a chemo- and radiosensitising effect, but also a protective effect – [31-33].

## Further therapeutic properties

In addition to its anti-carcinogenic properties, resveratrol also has cardio- and neuroprotective as well as anti-inflammatory, anti-microbial and other preventive medical properties. Resveratrol exerts its cardioprotective effect through improved ventricular function, reduced cardiac hypertrophy, contractile dysfunction and arteriosclerosis [34-37]. Resveratrol also showed neuroprotective effects in various neuro-degenerative diseases such as Alzheimer's, Huntington's, Parkinson's and ALS, as well as in alcohol-induced disorders [38,39]. The positive influence on mitochondrial function and metabolic diseases such as diabetes and metabolic syndrome are also the subject of current research [40-43].

Resveratrol showed inhibited platelet coagulation in vitro [44,45]. When taken together with anticoagulants, blood thinners and non-steroidal anti-inflammatory drugs, there

may be an increased tendency to bleed. Resveratrol should also not be administered at the same time as the active ingredient paclitaxel. In vitro, it weakened the effect of paclitaxel. In contrast, pretreatment led to a positive synergistic effect [46].

A recent study [47] summarised further therapeutic properties of resveratrol for the treatment of cardiovascular and lifestyle-related diseases. Thanks to its influence on various regulatory pathways, resveratrol is able to reduce radical and inflammatory load, improve fat and sugar metabolism, mitochondrial function in general, and blood sugar regulation. By reducing oxidative stress and its influence on NO bioavailability, resveratrol can play an important role in the treatment of cardiovascular diseases.



### Cancer

- Lung cancer
- Pancreatic cancer
- Colon cancer
- Breast cancer
- T-cell leukaemia
- Melanoma
- Neuroblastoma
- Medulloblastoma
- Glioblastoma

### Autoimmune diseases

- Type 1 diabetes
- Systemic lupus erythematosus
- Lupus nephritis
- Inflammatory bowel diseases
- Multiple sclerosis
- Encephalomyelitis
- Amyotrophic lateral sclerosis
- Rheumatoid arthritis
- Psoriasis

### Neurodegenerative diseases

- Alzheimer's disease
- Huntington's disease
- Parkinson's disease
- Inflammatory bowel diseases
- Amyotrophic lateral sclerosis
- Diabetic neuropathy
- Alcohol-induced neurodegenerative disorder

## Resveratrol



### Infectious diseases

- Helicobacter pylori
- Staphylococcus aureus
- Toxoplasma gondii
- Acquired immunodeficiency syndrome
- Middle East Respiratory Syndrome coronavirus

### Cardiovascular diseases

- Atherosclerosis
- Hypertension
- Stroke
- Myocardial ischemia
- Heart failure

### Metabolic diseases

- Obesity
- Type II diabetes
- Non-alcoholic fatty liver disease

Fig.: Activity of resveratrol against various diseases based on experimental studies, modified from [48]

## Advantages of our formulations using cyclodextrin

- Non-metabolisable, non-diabetogenic or glucose-releasing solubiliser
- Rapid renal clearance, remains extracellular after parenteral administration
- Minimal risk of anaphylactic shock
- Safety and tolerability confirmed by healthcare professionals
- No ethanol and therefore gentle on the liver, well tolerated
- No prior administration of cortisone or special infusion equipment required
- Use of pure, natural raw materials