

# Artesunate - IV Drip



## What is Artesunate IV Therapy?

Artesunate is a drug developed using the derivatives of *Artemisia annua*, an herb often used in Traditional Chinese Medicine.

Originally developed for the treatment of malaria, it has shown promise as a treatment for cancer when used alone or as an adjunct to conventional therapies. Cancer cells tend to absorb higher levels of iron than healthy cells due to their rapid growth. This excess iron accumulates in intracellular structures known as lysosomes. The iron then has the ability to react with oxygen to create reactive oxygen species that are damaging to healthy cells. In cancer cells however, this reaction leads to DNA mutations and allows them to develop resistance to many types of cancer treatments.

Artesunate's selective cytotoxic properties are due to its ability to react with the high iron concentrations contained in cancer cells, activating the surrounding lysosome and triggering apoptosis (cell death) through the destruction of the mitochondria. The induced cell death by artesunate has been shown to be mediated by the release of iron from the lysosomes and the degradation of an iron storage protein called ferritin.

Artesunate promotes this breakdown of ferritin and iron release in cancer cells, which then is able to exert cytotoxic effects. In short, artesunate is able to utilize the cancer cell's own iron stores to induce its own cell death, reducing tumour size and spread.

Artesunate has also been shown to inhibit angiogenesis, the development of blood vessels that can supply tumors. Additionally, artesunate can enhance the effectiveness of conventional cancer treatments by increasing the sensitivity of tumour cells to radiation and chemotherapy. IV artesunate has not only been associated with increased survival rates for those with advanced stage cancers, but can also increase the patient's quality of life.

Preliminary studies from the Bastyr Integrative Oncology Research Center show increased two-year survival rates for Stage 4 breast cancer (90%) following treatment with IV artesunate alongside IV vitamin C with no adverse effects. Artesunate may be used alongside your high dose IV Vitamin C treatment due to this synergistic quality.

Recent clinical research has indicated Artesunate may be safe and efficacious for a variety of cancer types. It has been shown to be highly tolerable in adult and pediatric populations with a low side effect profile. While intravenous administration is typical, artesunate may also be given orally.

### Uses

- Cancer
- Malaria
- Anti-viral
- Lyme Infection

### Ingredients

- Artesunate
- Sodium Bicarbonate
- Normal Saline

### Side Effects

#### Common

- Bruising at IV access site
- Changes in body temperature
- Fatigue
- Dizziness
- Nausea

#### Rare

- Allergic reaction
- Hemolysis
- Urticaria

