

### **What is artemisinin?**

*Artemisia annua* is a medicinal plant with a long history of use in Traditional Chinese Medicine. Artemisinin is an extract from *Artemisia annua*. Several semi-synthetic derivatives have been developed including artesunate and dihydro-artemisinin. Artemisinin and artesunate are approved for the treatment of malaria. They are sometimes used in cancer treatment, usually in oral or intravenous (IV) form.

### **What are artemisinin and its derivatives used for?**

Artemisinin and its derivatives are sometimes used with the aim of improving cancer outcomes, including response rate and survival, although they are not approved for this use. Oral and IV artesunate are the most common forms and routes used in cancer care.

Artemisinin and its derivatives are not a cure for cancer. These agents are not an alternative for chemotherapy or other cancer treatments.

### **Does artemisinin and its derivatives work?**

Due to limited research, no conclusive statement can be made regarding artemisinin's efficacy as an anticancer agent. Two randomized clinical trials (one placebo-controlled), four single-arm trials (published in 6 reports), six small clinical trials and several case reports have studied the effect of artemisinin in cancer. Although several case reports describe positive outcomes for

response and survival, the only clinical trial to assess survival found no difference in survival in patients with lung cancer.

### **How does artemisinin and its derivatives work?**

Although several anti-cancer mechanisms of action have been studied, the primary mechanism believed to be responsible for an anti-cancer effect is the production of hydroxyl radicals leading to oxidative stress.

### **Is artemisinin safe?**

Most studies have found artemisinin and its

