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# CANCER FACTS

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National Cancer Institute • National Institutes of Health  
Department of Health and Human Services

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## Angiogenesis Inhibitors in the Treatment of Cancer

*Angiogenesis* means the formation of new blood vessels. Angiogenesis is a process controlled by certain chemicals produced in the body. These chemicals stimulate cells to repair damaged blood vessels or form new ones. Other chemicals, called angiogenesis inhibitors, signal the process to stop.

Angiogenesis plays an important role in the growth and spread of cancer. New blood vessels “feed” the cancer cells with oxygen and nutrients, allowing these cells to grow, invade nearby tissue, spread to other parts of the body, and form new colonies of cancer cells.

Because cancer cannot grow or spread without the formation of new blood vessels, scientists are trying to find ways to stop angiogenesis. They are studying natural and synthetic angiogenesis inhibitors, also called anti-angiogenesis agents, in the hope that these chemicals will prevent the growth of cancer by blocking the formation of new blood vessels. In animal studies, angiogenesis inhibitors have successfully stopped the formation of new blood vessels, causing the cancer to shrink and die.

Whether angiogenesis inhibitors will be effective against cancer in humans is not yet known. Various angiogenesis inhibitors are currently being evaluated in clinical trials (research studies in humans). These studies include patients with cancers of the breast, prostate, brain, pancreas, lung, stomach, ovary, and cervix; some leukemias and lymphomas; and AIDS-related Kaposi’s sarcoma. If the results of clinical trials show that angiogenesis inhibitors are both safe



and effective in treating cancer in humans, these agents may be approved by the Food and Drug Administration (FDA) and made available for widespread use. The process of producing and testing angiogenesis inhibitors is likely to take several years.

Detailed information about ongoing clinical trials evaluating angiogenesis inhibitors and other promising new treatments is available from the Cancer Information Service (CIS). The CIS, a national information and education network, is a free public service of the National Cancer Institute (NCI), the Nation's primary agency for cancer research. The CIS meets the information needs of patients, the public, and health professionals. The toll-free phone number is 1-800-4-CANCER (1-800-422-6237). For callers with TTY equipment, the number is 1-800-332-8615. The NCI's Cancer.gov Web site also provides a listing of NCI-sponsored clinical trials at [http://cancer.gov/clinical\\_trials](http://cancer.gov/clinical_trials) on the Internet.

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### **Sources of National Cancer Institute Information**

#### **Cancer Information Service**

Toll-free: 1-800-4-CANCER (1-800-422-6237)

TTY (for deaf and hard of hearing callers): 1-800-332-8615

#### **NCI Online**

##### ***Internet***

Use <http://cancer.gov> to reach the NCI's Web site.

##### ***LiveHelp***

Cancer Information Specialists offer online assistance through the *LiveHelp* link on the NCI's Web site.

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