

New drug uses stealth to stop cancer cell reproduction

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A new investigational drug designed to stop cancer cells from reproducing may offer hope for patients with advanced solid tumor cancers. Clinical trials of TKM-PLK1 for qualified patients are now open at the Virginia G. Piper Cancer Center at Scottsdale Healthcare.

TKM-PLK-1 targets a protein called polo-like kinase 1 (PLK1) that promotes tumor cell reproduction. It prevents the tumor from completing cell division, resulting in death of the cancer cell. The Virginia G. Piper Cancer Center at Scottsdale Healthcare will be among the first in the world to study the treatment in humans.

The new drug is being developed as a treatment for patients with advanced solid tumor cancers who are not well served by current therapy. The Phase 1 clinical trial will evaluate the safety, tolerability and how the body metabolizes TKM-PLK1.

Laboratory research showed the investigational compound may have effectiveness in treating colorectal, breast, non-small cell lung, and ovarian cancers. These diseases collectively affect more than 500,000 new patients each year in the United States.

"One of the things that makes this drug unique is its use of siRNA technology. A small engineered compound is introduced into the cancer cell and stops production of this protein that [cancer cells](#) need to grow. It's like a stealth attack on the cancer cell," says Ramesh Ramanathan, MD, principal investigator at the Virginia G. Piper Cancer Center at Scottsdale Healthcare.

Sequencing of the human [genome](#) provided the information needed to design siRNA therapeutics that can target specific proteins. TKM-PLK1 delivers these powerful siRNA molecules into the cancer cell.

Researchers hope to enroll up to 52 patients in

clinical trials of the drug in three centers across the U.S. The drug was developed by Tekmira Pharmaceuticals Corporation of Vancouver, BC, Canada.

The Virginia G. Piper Cancer Center at Scottsdale Healthcare opened in 2001 as the first major cancer center in greater Phoenix offering comprehensive cancer care and research through Phase I clinical trials, diagnosis, treatment, prevention and support services in collaboration with leading researchers and community oncologists. The Scottsdale Healthcare cancer program holds Accreditation with Commendation from the Commission on Cancer of the American College of Surgeons.

Research at the Virginia G. Piper Cancer Center at Scottsdale Healthcare is conducted in collaboration with the Translational Genomics Research Institute (TGen) and the Scottsdale Healthcare Research Institute, allowing molecular and genomic discoveries to reach the patient bedside as quickly as possible through [clinical trials](#) of therapies directed at specific targets in a patient's tumor.

Provided by Scottsdale Healthcare

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