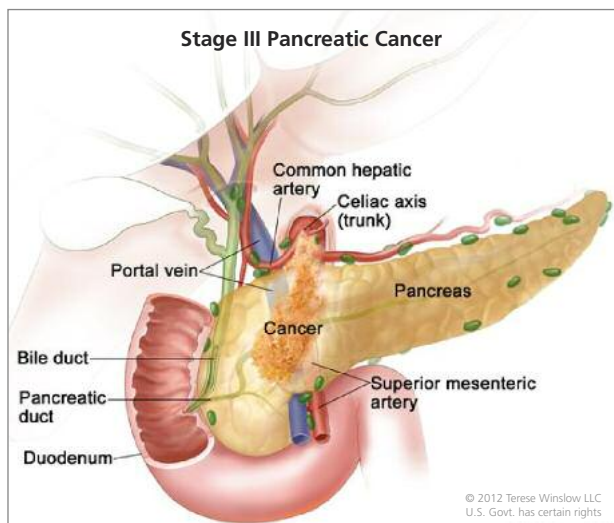


# Benefits of Micronutrient Synergy in Pancreatic Cancer

The pancreas, located directly behind the lower part of the stomach, is a vital organ secreting various digestive enzymes and hormones (e.g. insulin) that regulate blood sugar levels in the body.



Cancer of the pancreas is a serious and almost always fatal disease. It is the twelfth most common cancer worldwide, with around 338,000 new cases diagnosed in 2012<sup>1</sup>. However, it is projected that pancreatic cancer will be the second deadliest cancer by 2030. According to American Cancer Society 2014 estimates, 46,420 people will be diagnosed with pancreatic cancer in the US and 39,590 deaths are expected to result from it. In Europe, there were approximately 103,845 cases of pancreatic cancer in 2012. Only 4-5% of the people diagnosed with pancreatic cancer live beyond 5 years after their diagnosis. This is because pancreatic cancer is usually diagnosed at a very late stage due to a lack of specific symptoms and, similarly to other cancers, no effective cure is available.

Factors that have been associated with an increased risk of pancreatic cancer include smoking, obesity, exposure to certain chemicals, chronic pancreatitis, genetic mutations and even type 2 diabetes. Although not typically associated with pancreatic cancer, a sudden occurrence of jaundice, abdominal pain, changes in bowel habits associated with loss of appetite and weight may require further evaluation.

One of the reasons why pancreatic cancer is fatal is because it has already spread by the time it is diagnosed. A key mechanism that cancer cells use to spread in the body involves the destruction of collagen and connective tissue surrounding cancer cells. At present there are not many options available to control this excessive degradation and stop the metastasis of cancer. However, our research has demonstrated that micronutrients such as vitamin C, lysine, proline, green tea extract and others are effective in blocking collagen digesting enzymes, known as matrix metalloproteinases (MMPs), which facilitate

the spread of various types of cancer. Therefore, we studied whether a specific combination of these micronutrients can affect the growth and tissue migrating potential of pancreatic cancer cells<sup>2</sup>. We observed that this micronutrient combination was able to reduce the growth of pancreatic cancer cells by 62%. In addition, these nutrients could completely stop the secretion of MMP enzymes by these cancer cells. As a result, since the micronutrients helped strengthen the surrounding connective tissue, the pancreatic cancer cells were less able to break through this natural barrier and their potential to spread was reduced by up to 87%.

November is Pancreatic Cancer Awareness Month, with a focus on funding further research and education. Since at the time of diagnosis pancreatic cancer is often inoperable and no proven cure is available, our research results are of the utmost importance. By opening up new directions in natural approaches to cancer, they bring hope to millions of patients who currently have no real choices for the effective elimination of pancreatic cancer.

Ref:

1. World Cancer Research Fund International.
2. M.W. Roomi et al., *International Journal of Gastrointestinal Cancer* 2005, 35(2): 97-102.

## Health Science News Page

This information is provided to you courtesy of the Dr. Rath Research Institute. Led by two former colleagues of two-time Nobel Laureate Linus Pauling († 1994) this Institute has become a leader in the breakthrough of natural health research in the field of cancer, cardiovascular disease and other common diseases. The Institute is a 100% subsidiary of the non-profit Dr. Rath Foundation.

The groundbreaking nature of this research poses a threat to the multi-billion dollar pharmaceutical "business with disease." It is no surprise that over the years the drug lobby has attacked Dr. Rath and his research team in an attempt to silence this message. To no avail. During this battle, Dr. Rath has become an internationally renowned advocate for natural health saying, "Never in the history of medicine have researchers been so ferociously attacked for their discoveries. It reminds us that health is not given to us voluntarily, but we need to fight for it."

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