

Parsley, celery carry crucial component for fight against breast cancer, researcher finds

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Parsley is usually used as a decorative accent to a scrumptious meal, but don't set it aside just yet. In a new study, a University of Missouri researcher has found that a compound in parsley and other plant products, including fruits and nuts, can stop certain breast cancer tumor cells from multiplying and growing. The study was published recently in *Cancer Prevention Research*.

In his study, Salman Hyder, the Zalk Endowed Professor in [Tumor Angiogenesis](#) and professor of biomedical sciences in the College of Veterinary Medicine and the Dalton Cardiovascular Research Center, exposed rats with a certain type of breast cancer to apigenin, a common compound found in parsley and other plant products. The rats that were exposed to the apigenin developed fewer tumors and experienced significant delays in [tumor formation](#) compared to those rats that were not exposed to apigenin. Hyder believes this finding could impact women who are taking certain hormone replacement therapies.

"Six to 10 million women in the United States receive [hormone replacement therapy](#) (HRT)," Hyder said. "We know that certain synthetic hormones used in HRT accelerate breast [tumor development](#). In our study, we exposed the rats to one of the chemicals used in the most common HRTs received in the United States – a progestin called medroxyprogesterone acetate (MPA) – which also happens to be the same synthetic hormone that accelerates [breast tumor](#) development."

When [tumor cells](#) develop in the breast in response to MPA, they

encourage new blood vessels to form within tumors. The blood vessels then supply needed nutrients for the tumors to grow and multiply. Hyder found that apigenin blocked new blood vessel formation, thereby delaying, and sometimes stopping, the development of the tumors. Hyder also found that the compound reduced the overall number of tumors. However, while apigenin did delay [tumor](#) growth, it did not stop the initial formation of cancer cells within the breast.

Apigenin is most prevalent in parsley and celery, but can also be found in apples, oranges, nuts and other plant products. However, apigenin is not absorbed efficiently into the bloodstream, so scientists are unsure of how much can or should be ingested.

"We don't have specific dosage for humans yet," Hyder said. "However, it appears that keeping a minimal level of apigenin in the bloodstream is important to delay the onset of [breast cancer](#) that progresses in response to progestins such as MPA. It's probably a good idea to eat a little parsley and some fruit every day to ensure the minimal amount. However, you can also find this compound in pill supplements in the health food section of many stores. Of course, you should always check with your doctor before making any major changes to your diet or lifestyle."

The next phase of studies should include human clinical trials to determine the appropriate dosage amount, Hyder said. He believes further study on humans is necessary to address any health and safety issues that might exist.

Provided by University of Missouri-Columbia

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