

Holy Basil leaf extract decreases tumorigenicity and metastasis of aggressive human pancreatic cancer cells in vitro and in vivo: potential role in therapy. ^[1]

Submitted by [María del Pilar Torres-González](#) ^[2] on 11 December 2013 - 4:26pm



^[2]

Title	Holy Basil leaf extract decreases tumorigenicity and metastasis of aggressive human pancreatic cancer cells in vitro and in vivo: potential role in therapy.
Publication Type	Journal Article
Year of Publication	2013
Authors	Shimizu, T ^[3] , Torres, MP ^[4] , Chakraborty, S ^[5] , Soucek, JJ ^[6] , Rachagani, S ^[7] , Kaur, S ^[8] , Macha, M ^[9] , Ganti, AK ^[10] , Hauke, RJ ^[11] , Batra, SK ^[12]
Journal	Cancer Lett
Volume	336
Issue	2
Pagination	270-80
Date Published	2013 Aug 19
ISSN	1872-7980

Abstract There is an urgent need to develop alternative therapies against lethal pancreatic cancer (PC). *Ocimum sanctum* ("Holy Basil") has been used for thousands of years in traditional Indian medicine, but its anti-tumorigenic effect remains largely unexplored. Here, we show that extracts of *O. sanctum* leaves inhibit the proliferation, migration, invasion, and induce apoptosis of PC cells in vitro. The expression of genes that promote the proliferation, migration and invasion of PC cells including activated ERK-1/2, FAK, and p65 (subunit of NF- κ B), was downregulated in PC cells after *O. sanctum* treatment. Intraperitoneal injections of the aqueous extract significantly inhibited the growth of orthotopically transplanted PC cells in vivo ($p < 0.05$). Genes that inhibit metastasis (E-cadherin) and induce apoptosis (BAD) were significantly upregulated in tumors isolated from mice treated with *O. sanctum* extracts, while genes that promote survival (Bcl-2 and Bcl-xL) and chemo/radiation resistance (AURKA, Chk1 and Survivin) were downregulated. Overall, our study suggests that leaves of *O. sanctum* could be a potential source of novel anticancer compounds in the future.

DOI [10.1016/j.canlet.2013.03.017](https://doi.org/10.1016/j.canlet.2013.03.017) ^[13]

Alternate Journal Cancer Lett.

PubMed ID [23523869](https://pubmed.ncbi.nlm.nih.gov/23523869/) ^[14]

PubMed Central ID PMC3700662

Grant List P50 CA127297 / CA / NCI NIH HHS / United States
P50 CA127297 / CA / NCI NIH HHS / United States
T32CA009476 / CA / NCI NIH HHS / United States
U01 CA111294 / CA / NCI NIH HHS / United States
U54 CA160163 / CA / NCI NIH HHS / United States

Copyright © 2006-Present CienciaPR and CAPRI, except where otherwise indicated, all rights reserved

[Privacy](#) | [Terms](#) | [Community Norms](#) | [About CienciaPR](#) | [Contact Us](#)

Source URL: <https://www.cienciapr.org/en/holy-basil-leaf-extract-decreases-tumorigenicity-and-metastasis-aggressive-human-pancreatic-cancer>

Links

[1] <https://www.cienciapr.org/en/holy-basil-leaf-extract-decreases-tumorigenicity-and-metastasis-aggressive-human-pancreatic-cancer> [2] <https://www.cienciapr.org/en/user/mptorres> [3] <https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2733> [4] <https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2727> [5] <https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2734> [6] <https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2729> [7] <https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2728> [8] <https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2735> [9]

<https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2736> [10]

<https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2737> [11]

<https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2738> [12]

<https://www.cienciapr.org/en/biblio?f%5Bauthor%5D=2732> [13] <http://dx.doi.org/10.1016/j.canlet.2013.03.017>

[14] <https://www.ncbi.nlm.nih.gov/pubmed/23523869?dopt=Abstract>