

Individual Anteaiox Phenols and Prostate Cancer

Resveratrol

“Therefore, this review is aimed to summarize the recent advancement in RSV-inhibited prostate cancer initiation, proliferation, and metastasis as well as the underlying molecular mechanisms, with particular emphasis on the effect of RSV on TME (Tumor Microenvironment). This will not only better our understanding of prostate cancer TME’s, but also pave the way for the development of RSV as a potential reagent for prostate cancer prevention and/or therapy.” 78. Journal of Xenobiotics, 2021

Quercetin

“Our results demonstrated quercetin exerts its anti-cancer effects by modulating ROS, Akt, and NF-κB pathways. Quercetin could be used as a chemopreventative option as well as in combination with chemotherapeutic drugs to improve outcomes for PCa patients.”

79. World Journal of Surgical Oncology, 2018

Curcumin

“The comprehensive systematic review presented in this paper confirms that curcumin reduces the side effects of chemotherapy or radiotherapy, resulting in improved patients’ quality of life. A number of studies reported that, curcumin has increased patient survival time and decreased tumor markers’ level.” 80. BMC Cancer, 2020

EGCG

“We and others have demonstrated that although there are several mechanisms by which EGCG may modulate prostate carcinogenesis, the catechin-EGCG potently and selectively inhibits the proteasome activity in intact cells and ultimately results in the accumulation of B-a and p27 proteins, and growth arrest.” 81. Oncotarget, 2018

Gallic Acid

“Taken together, our in vitro and in vivo results indicate that Gallic Acid....is efficacious on decreasing the cell viability, inhibiting colony and tumor spheroid formation, and inducing cell cycle arrest and apoptosis in PCa cell lines...we determined and corroborated the anti-PCa and HDAC inhibitory effects of Gallic Acid.” 82. Journal of Nutritional Biochemistry, 2020

Formononetin

“In brief, our experiments furtherly investigated the pharmacological mechanism of formononetin and indicated the potential value of formononetin as an antiprostate cancer agent.”

83. Pharmacogn Mag, 2020

p-Coumaric Acid

“Moreover, the effects of p-CA treatment on the expression of genes that are involved in the cell adhesion and apoptosis modulation of PC3 cells and already known health benefits of p-CA consumption make it a candidate for the development of new anticancer drugs or cytotoxicity-enhancing formulations.” 84. Molecules, 2021

Kaempferol

"It was then confirmed that the protein level of PSA was decreased. Kaempferol inhibits AR protein expression and nuclear accumulation. Kaempferol suppressed vasculogenic mimicry of PC-3 cells in an in vitro study. In conclusion, kaempferol is a promising therapeutic candidate for treatment of prostate cancer, where the androgen signaling pathway as well as vasculogenic mimicry are involved." 85. Analytical Cellular Pathology, 2019

Caffeic and Hydroxybenzoic Acids

"In this study, we investigated the association between phenolic acids intake and PCa incidence. We found that high intake of caffeic acid and ferulic acid were significantly associated with reduced risk of PCa." 86. Molecules, 2017

Ellagic Acid

"In conclusion, the results suggest that EA treatment represents a new and highly effective strategy in reducing prostate cancer carcinogenesis." 87. Oncology Reports, 2013

Ferulic Acid

"According to the results of this study, Ferulic Acid inhibits cell proliferation by affecting cell cycle and apoptotic pathways, also suppressing invasion and colony formation in PC-3 and LNCaP prostate cancer cell lines...In prostate cancer cell lines, Ferulic Acid suppressing effect on both the invasion and the colony formation indicates that it may suppress the metastasis as well."

88. International Society of Oncology and Biomarkers, 2015

Cinnamic Acid

"In the current study, we show the inhibitory effects of cinnamic acid derivatives, including caffeic acid phenethyl ester (CAPE, 1), on the growth of breast and prostate cancer cells....Compound 6 could be a new anti-cancer agent for use against breast and prostate cancer."

89. Biological & Pharmaceutical Bulletin, 2019

3,4-Dihydroxyphenylacetic Acid

"In summary, we demonstrated that an in vitro model (TIM2), which mimics the microbiotic environment of the colon, can be used to study fermentation processes in the colon and to compare the fermentation products from different parent compounds under identical conditions. 3,4-dihydroxyphenylacetic acid, one of the phenolic acid fermentation products, has promising biological activity against cancer cell proliferation in vitro and warrants further investigation."

90. The Journal of Nutrition, 2013

Caffeic Acid Phenethyl Ester (CAPE)

"According to the above summaries in this review, there are strong evidences that CAPE treatment suppresses tumor growth and Akt signaling in human prostate cancer cells. CAPE treatment reduces Int. J. Mol. Sci. 2013, 14 5274 the dosage of chemotherapeutic agents required and protects organ damages and toxicity induced by various kinds of cancer chemotherapy drugs or radiation therapies. Therefore, CAPE is a potential treatment for advanced prostate cancer targeting Akt signaling."

91. Int Journal of Molecular Sciences, 2013

Catechin

“Catechins can also influence various immune suppressive cells, for example myeloid-derived suppressor cells (MDSC). These cells play important role in prostate cancer...It was shown that catechins can exert antineoplastic effects by antagonizing tumor-induced MDSCs...It looks like that intermediate stage – the stage of chronic low-grade unresolved inflammation might stimulate tumor growth due to induction of immune tolerance and exhausted phenotype of immune effector cells. In this case using of catechins might be the way of balancing the immune response and returning its ability to eliminate cancer cells in tumors.” 92. Anti-Cancer Agents in Medicinal Chemistry, 2019

Protocatechuic Acid

“Moreover, PCA also demonstrated anticancer properties by causing apoptosis or suppressing invasion and metastasis in human prostate cancer cells.”

93. Evidence-Based Complementary and Alternative Medicine, 2015