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Supplementary information to:

Letter to the editor:

UNVEILING THE ANTICANCER POTENTIAL OF PLATYCODIN D

Tae Kyung Hyun

Department of Industrial Plant Science and Technology, College of Agriculture, Life and Environment Sciences, Chungbuk National University, Cheongju 28644, Republic of Korea. Phone: +82-43-261-2520, Fax: +82-43-271- 0413. E-mail: taekyung7708@chungbuk.ac.kr

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Supplementary Table 1: Recent updates on platycodin D (PD) as a potential anticancer compound

Type of cancer	Key finding	Reference
Colorectal cancer	PD enhanced the sensitivity of KRAS-mutant colorectal cancer cells to cetuximab treatment through the inhibition of the PI3K/Akt signaling pathway, suggesting a potentially reliable theory for improving the efficacy of cetuximab chemotherapy by PD treatment	Liu et al., 2022
	PD decreased LATS2/YAP1 Hippo signaling and survival marker p-AKT expression while increasing the levels of cyclin-dependent kinase inhibitors, such as p21 and p27, ultimately inhibiting proliferation in oxaliplatin-resistant colorectal cancer cells	Wang et al., 2023
	PD inhibited metastasis of KRAS wild-type colorectal cancer cells treated with cetuximab (epidermal growth factor receptor inhibitor) by inhibiting β-catenin, indicating that PD can repress metastasis of colorectal cancer after cetuximab therapy	Lv et al., 2023
	PD decreased the viability of HT-29 colon cancer cells by inducing apoptosis and modulating the MAPK pathway. Specifically, it inhibited ERK and activated p38 and JNK	Han et al., 2024

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Type of cancer	Key finding	Reference
Lung cancer	PD induced the expression of PUMA (p53 up-regulated modulator of apoptosis) through the JNK/AP-1 signaling pathway, thereby promoting apoptosis in non-small cell lung cancer cells	Chen et al., 2022
	PD suppressed angiogenesis and vascular mimicry in non-small cell lung cancer by modulating N7-methylguanosine gene *eIF4E* (eukaryotic translation initiation factor 4E) and associated long non-coding RNAs. Moreover, the combination of PD with ribavirin (an eIF4E inhibitor) exerted synergistic anti-vascular mimicry effects in non-small cell lung cancer by destabilizing the epidermal growth factor receptor	Zheng et al., 2024
Glioblastoma	PD induced glioblastoma multiforme cell death by inhibiting autophagy flux, which is involved in the accumulation of low-density lipoprotein (LDL)-derived cholesterol in lysosomes	Lee et al., 2022
	PD inhibited glioma cell proliferation, migration, and invasion by regulating the S-phase kinase-associated protein 2 (Skp2)-p21/p27 signaling axis, which integrates mitogenic and DNA damage signaling to control the entry into the S phase	Li et al., 2023
	PD inhibited the proliferation and motility of glioblastoma cells through the inhibition of the epithelial-to-mesenchymal transition by downregulating DEP domain-containing protein 1B. Hence, PD could be a potential therapeutic option for glioma intervention	Ouyang et al., 2023
Hematologic malignancies	PD significantly decreased cell viability in acute myeloid leukemia (AML) cells by triggering mitochondria-dependent apoptosis and G_0/G_1 phase cell cycle arrest through the inhibition of PI3K/AKT and MAPK/ERK signaling pathways. When combined with venetoclax, a B-cell lymphoma 2 inhibitor, PD produced synergistically enhanced cytotoxic effects. The potent anti-leukemic efficacy of PD, which was confirmed using primary samples from *de novo* AML patients, underscores its potential as a promising therapeutic candidate for AML treatment	Jiang et al., 2023
	PD exhibited potent anticancer activity, inhibiting the viability of various diffuse large B-cell lymphoma (DLBCL) cell lines (DB, SUDHL-4, SUDHL-16, Farage, Pfeiffer, OCI-Ly3, OCI-Ly10, and U2932 cells) in a dose-dependent manner by inducing mitochondrial dysfunction and apoptosis, as well as downregulating antiapoptotic proteins. Additionally, PD significantly enhanced the cytotoxicity of venetoclax and markedly suppressed tumor growth in the SUDHL-4-derived xenograft mouse model without observable side effects, offering promising insights for lymphoma therapy	Liu et al., 2023
Endometrial cancer	PD effectively reduced the proliferation, invasion, and migration of endometrial cancer cells by upregulating the expression of the α2A-adrenergic receptor (ADRA2A), subsequently inhibiting the PI3K/Akt signaling pathway	Ni et al., 2023
Breast cancer	PD administration inhibited the PI3K/Akt signaling pathway by reducing the expression of programmed cell death ligand 1 (PD-L1) on neutrophils, promoting neutrophil apoptosis in mice with 4T1-induced breast cancer. Subsequently, it prevented the establishment of a premetastatic niche and ultimately blocked the development of pulmonary metastasis	Ye et al., 2023

Type of cancer	Key finding	Reference
Gastric cancer	PD suppressed the growth and colony formation capacity of gastric cancer cells by reducing c-Myc protein levels through the activation of the ubiquitin-proteasome degradation pathway	Xu et al., 2023
Prostate cancer	PD induced apoptosis in PC3 human prostate cancer cells by activating both caspase-dependent intrinsic and extrinsic pathways. This effect depended on reactive oxygen species	Choi, 2022
Papillary thyroid carcinoma	PD effectively inhibited the malignant progression of papillary thyroid carcinoma by targeting the NF-κB signaling pathway, thereby enhancing the therapeutic efficacy of pembrolizumab	Deng and Sun, 2022

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