

Abstract 1830: Bergenin inhibits growth of human cervical cancer cells by decreasing galectin-3 and MMP-9 expression **FREE**

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Abstract

Cervical cancer is still the leading of cancer mortality worldwide, even after introducing a vaccine against Human papillomavirus (HPV), due to low vaccine coverage, especially in the developing world. Cervical cancer is primarily treated by Chemo/Radiotherapy, depending on the disease stage, with Carboplatin/Cisplatin-based drug regime. These drugs being non-specific, target rapidly dividing cells, including normal cells, so safer options are needed for more targeted therapy and lower off-target toxicity. Natural products offer an attractive option compared to synthetic drugs due to their well-established safety profile and capacity to target multiple oncogenic hallmarks of cancer like inflammation, angiogenesis, etc. In the current study, we investigated the effect of Bergenin (C-glycoside of 4-O-methylgallic acid), a natural polyphenol compound that is isolated from medicinal plants such as *Bergenia crassifolia*, *Caesalpinia digyna*, and *Flueggea leucopyrus*. Bergenin has been shown to have anti-inflammatory, anti-ulcerogenic, and wound healing properties. Still, its anticancer potential has been realized only recently. We performed a proteomic analysis of cervical carcinoma cells treated with bergenin and found it to influence multiple hallmarks of cancers, including apoptosis, angiogenesis, and tumor suppressor proteins. It was also involved in many different cellular processes unrelated to cancer, as shown by our proteomic analysis. Further analysis showed bergenin to be a potent -angiogenic agent by reducing key angiogenic proteins like Galectin 3 and MMP-9 (Matrix Metalloprotease 9) in cervical carcinoma cells at cellular level as shown by western blotting assay. Further understanding of this interaction was carried out using molecular docking

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