

FULL TEXT LINKS



[Nutr Cancer](#). 2020;72(3):528-537. doi: 10.1080/01635581.2019.1637442. Epub 2019 Jul 12.

Amygdalin Modulates Prostate Cancer Cell Adhesion and Migration In Vitro

Jens Mani ¹, Jens Neuschäfer ¹, Christian Resch ¹, Jochen Rutz ¹, Sebastian Maxeiner ¹, Frederik Roos ¹, Felix K-H Chun ¹, Eva Juengel ¹, Roman A Blaheta ¹

Affiliations

PMID: 31298931 DOI: [10.1080/01635581.2019.1637442](https://doi.org/10.1080/01635581.2019.1637442)

Abstract

The natural compound, amygdalin, is notably popular with prostate cancer patients as an alternative or complementary treatment option. However, knowledge about its mode of action is sparse. We investigated amygdalin's impact on prostate cancer adhesion and motile behavior. DU-145 and PC3 cancer cells were exposed to amygdalin. Adhesion to human vascular endothelium or immobilized collagen was then explored. The influence of amygdalin on chemotaxis and migration was also investigated, as well as amygdalin induced alteration to surface and total cellular α and β integrin expression. Integrin knockdown was performed to evaluate the integrin influence on chemotaxis and adhesion. Amygdalin significantly reduced chemotactic activity, migration, and adhesion of DU-145 but not of PC3 cells. Amygdalin elevated integrin $\alpha 2$ in both cell lines. Integrin $\alpha 6$ was reduced by amygdalin only in DU-145 cells, whereas $\beta 1$ increased only in PC3 cells. Functional blocking revealed a negative association of $\alpha 2$ with PC3 and DU-145 chemotaxis. The $\beta 1$ increase correlated with enhanced chemotaxis, the diminished $\alpha 6$ expression with reduced chemotaxis. Amygdalin acted on prostate cancer cells in vitro. It induced downregulation of $\alpha 6$ integrin in DU-145 but not in PC3 cells, suggesting that exposing certain prostate cancer cells to amygdalin might inhibit metastatic spread promoted by this particular integrin.

[PubMed Disclaimer](#)

Related information

[MedGen](#)

[PubChem Compound \(MeSH Keyword\)](#)

LinkOut - more resources

Full Text Sources

[Taylor & Francis](#)

Medical

[MedlinePlus Health Information](#)