## ABSTRACT

## ROLE OF TRANSIENT RECEPTOR POTENTIAL VANILLOID CHANNELS (TRPV) IN CANCER: NARRATIVE REVIEW

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**Background:** Cancer is the leading cause of death worldwide, accounting for nearly 10 million deaths in 2020. It leads cancer to being a global problem. Cancer can modify calcium signaling networks by altering the expression and function of cation channels, pumps, and transporter. One new molecular channel that promises to be targeted for cancer therapy is Transient Receptor Potential Channels (TRP). TRP contributes in the exchange and distribution of calcium both inside and outside the cell, especially Transient Receptor Potential Channels Vanilloid (TRPV) which is known to be associated with cancer.

**Methods:** In this study, a literature review was conducted regarding the role of TRPV in cells and cancer taken from PubMed. Using SciWheel to manage literature, 37 selected literature used in this study are international literature that discusses the role of TRPV in cells and cancer.

**Results:** TRPV has 6 members, there are TRPV1-6 which are categorized into two groups, ThermoTRPV (TRPV1, TRPV2, TRPV3, and TRPV4) who sensitive to temperatures from dangerous to non-dangerous temperatures and Calcium Selective (TRPV5 and TRPV6) who sensitive to calcium and has the main role of large-scale body calcium homeostasis. In body cells, TRPV has an important role such as mechanosensor, sensitive to heat, skin and hair cell growth, sensitive to pain, and maintaining calcium balance in the body. In cancer, TRPV has a role in proliferation, invasion, migration, metastasis, and apoptosis.

**Conclusion:** The important role that TRPV plays in body cells and cancer, can make TRPV a target of a drug to treat cancer through several mechanisms such as blocking the expression of TRPV in cancer cells which stimulates a decrease in cancer cell growth.

Keywords: TRPV, Cancer, Body Cells, TRP

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