**Abstract Submission Template (Page 1)**

**Presenting author’s information:**

Name:

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Position:

**Abstract Categories:**

[ ]  Cancer Treatment

[ ]  Cancer Genomics

[ ]  Prevention and Early Detection

[ ]  Clinical Trial/Case Study

[ ]  Cancer Care and Advocacy

[ ]  Others

**Abstract Submission Template (Page 2)**

**[Abstract Title** *Times New Roman font 14***]**

**[Authors\*** *Times New Roman font 12* **and affiliation** *Times New Roman font 10 italic***]**

**ABSTRACT (max 250 words** *Times New Roman font 12***):**

**[Keywords** *Times New Roman font 12***]**

\* Provide author names in the format: First Name Last Name (e.g, John Doe).

**Abstract Submission Example (Page 1)**

**Presenting author’s information:**

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**Position:** Post-Doctoral Scientist

**Abstract Categories:**

[x]  Cancer Treatment

[ ]  Cancer Genomics

[ ]  Prevention and Early Detection

[ ]  Clinical Trial/Case Study

[ ]  Cancer Care and Advocacy

[ ]  Others

**Abstract Submission Example (Page 2)**

**The potential use of cancer vaccine targeting tumour-associated antigens in oral epithelial dysplasia**

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Oral potentially malignant disorders with moderate-severe oral epithelial dysplasia (OED) are surgically removed to prevent malignant transformation. Despite surgical treatment, disease recurrence and malignant transformation may still occur, highlighting the need for more effective interventions. Our previous study unveiled that moderate-severe OEDs that progressed to oral cancer generally lack CD8 T cell infiltration and cytotoxic response, whereas those that did not progress demonstrated active immune surveillance. This finding suggested that a strategy to induce T cell cytotoxic response could be pivotal to prevent malignant transformation. Given the effectiveness of vaccination in eliciting T cell cytotoxic responses, this study explored the potential use of a cancer vaccine targeting MAGED4B in moderate-severe OED. MAGED4B was found to be overexpressed in both moderate-severe OED and oral tumours. MAGED4B is immunogenic as the detection of antigen-specific CD8 T cells in the blood samples corresponded to MAGED4B expression in the matched tissue samples. Our *in vitro* T cell-based immunogenicity assays demonstrated the feasibility of expanding MAGED4B antigen-specific CD8 T cells from patients' blood. Upon antigen stimulation, MAGED4B antigen-specific T cells become activated shown by CD38 expression and interferon-gamma secretion. The development of immune memory against MAGED4B was evident through the expansion of T effector memory cell populations. Importantly, the expanded MAGED4B-specific CD8 T cells exhibited antigen-specific killing function. In conclusion, we presented a proof-of-concept for the potential utility of a cancer vaccine targeting tumour-associated antigen in moderate-severe OED. These findings suggest that immunotherapy could offer a promising avenue for novel strategies in preventing cancer.

**Keywords**: Oral epithelial dysplasia, Cancer vaccine, Immunotherapy, Immune landscape, MAGED4B