**Question**

Scientific research has shown T lymphocytes can play a role in fighting cancer cells, although they are unable to completely rid the body of the cancer. Describe the T-cell response to cancer cells. (10 marks)

*Any of the following to a maximum of 10 marks.*

* *Lymphocytes / T cells have antigen receptors on their surface*
* *Antigen presenting cells / macrophages / B cells show antigens from the thyroid cancer cell*
* *Antigen presenting cells / macrophages / B cells travel to lymphoid tissue / lymph node and*
* *present antigens to T lymphocyte / T cell*
* *T lymphocytes / T cells are sensitised / become activated and enlarge*
* *T lymphocytes / T cells clone / undergo mitosis*
* *T lymphocytes / T cells differentiate into*
* *Cytotoxic / killer T cells that destroy cancer cells (through apoptosis)*
* *Helper T cells promote the action of cytotoxic / killer T cells*
* *Helper T cells attract macrophages / stimulate phagocytosis*
* *Memory T cells produced (and remain in lymphoid tissue).*
* *NOTE. Suppressor T cells would not be produced as cancer cell numbers would not have decreased enough.*

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