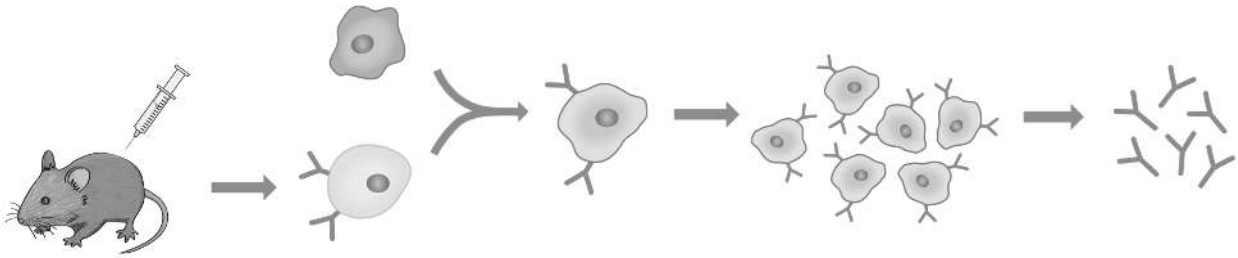


0 1

The diagram below shows how monoclonal antibodies are produced



0 1 . 1

The first stage involves injecting a mouse with an antigen

Define what is meant by an antigen

[1 mark]

0 1 . 2

Link each cell type below with their role in making monoclonal antibodies

[3 marks]

Lymphocyte	Cell divides & makes antibodies
Tumour cell	Makes antibodies but cannot divide
Hybridoma cell	Divides rapidly but cannot make antibodies

0 1 . 3

Explain how monoclonal antibodies can be used to diagnose some diseases

[4 marks]

0	1
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4

Cetuximab (Erbix) is a monoclonal antibody used to treat lung cancer. It is shaped to fit receptors on the surface of cancer cells that growth hormones bind to. Suggest how this monoclonal antibody works to prevent the growth of cancerous cells in the lungs

[2 marks]

0	1
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5

Describe the advantages of using monoclonal antibodies to treat cancer compared with the following conventional treatments:

[2 marks]

Chemotherapy: _____

Radiotherapy: _____
