

- 3 (a) A cytoskeleton is present in all eukaryotic cells. One of its functions is to control the movement of organelles.

State how the cytoskeleton moves organelles around the cell.

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..... [1]

- (b) Epithelial cells in the airways of mammals play an essential role in defences against pathogens.

Explain the function of epithelial cells in the airways of mammals in the defence against pathogens **and** suggest the importance of the cytoskeleton in carrying out this function.

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..... [4]

- (c) (i) Phagocytes defend the body by engulfing and destroying pathogens in a process called phagocytosis.

A student produced a summary of the stages of phagocytosis, which is shown in Fig. 3.1.

The student made two errors in their summary. Describe what **two** corrections the student should make.

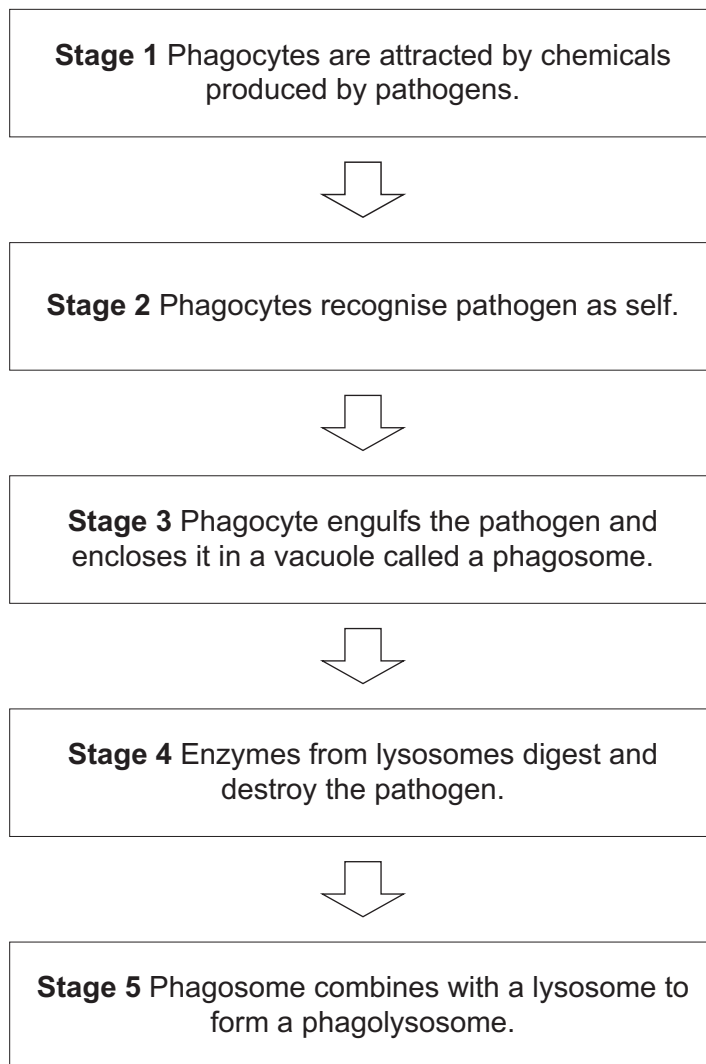


Fig. 3.1

Correction 1

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.....

Correction 2

.....

.....

[2]

- (ii) Antibodies are defensive proteins carried in the bloodstream. Fig. 3.2 shows the simplified, incomplete structure of an antibody.

Complete Fig. 3.2 by **drawing and labelling** the missing part(s) of the antibody.

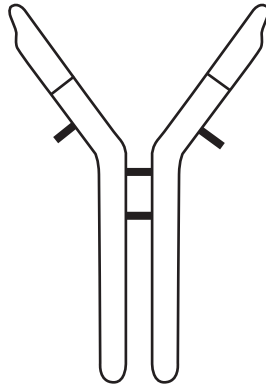


Fig. 3.2

[Answer on Fig. 3.2]

[1]