**7** Insulin is an example of a cell-signalling molecule of the endocrine system.

**(a)** Outline why insulin can be described as an example of a cell-signalling molecule of the endocrine system.

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**(b)** Researchers compared the effect of two types of meal on the mean blood glucose concentration and the mean blood insulin concentration of twelve volunteers. The measurements were made for three hours after the meal.

Meal A contained 55% carbohydrate, 27% fat and 18% protein.
Meal B contained 3% carbohydrate, 90% fat and 7% protein.

Fig. 7.1 shows the results.

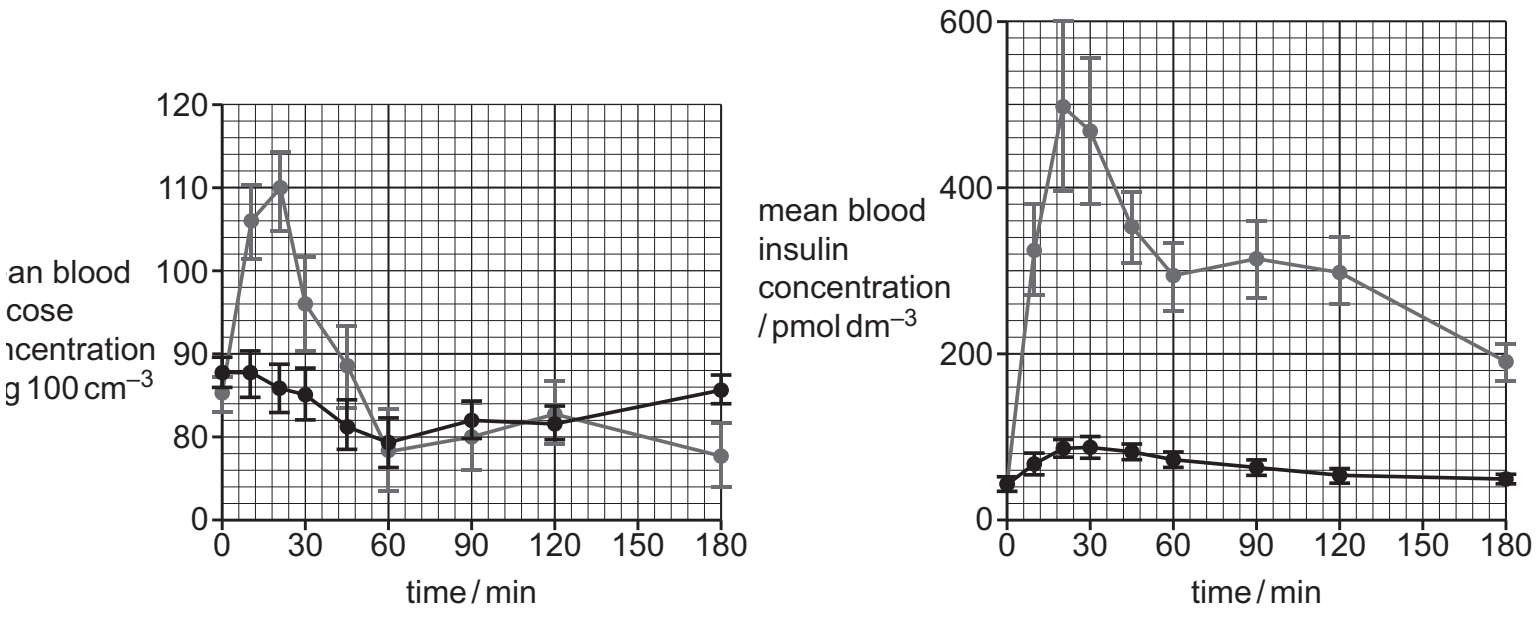


**Fig. 7.1**

**(i)** With reference to Fig. 7.1, explain how negative feedback operates to control mean blood glucose concentration in the volunteers who ate meal A.

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**(ii)** Suggest explanations for the changes in mean blood glucose concentration of the volunteers who ate meal B.

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