

# Time to put your knowledge to the test!

Welcome to the **Module 3** quiz on the effects of amylin on **amylin receptors**. This is your chance to apply what you have learned and see how well you understand the material

The quiz consists of **8 questions** in total

Please start by pressing the button on the right. Good luck!

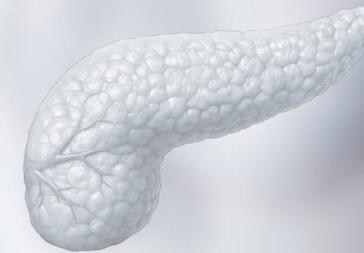
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# Question 1

**True or false:** Amylin is co-secreted with insulin from pancreatic  $\beta$  cells in response to food intake.

**A.** True

**B.** False



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# Question 1

**True or false:** Amylin is co-secreted with insulin from pancreatic  $\beta$  cells in response to food intake.

**A. True**

**B. False**



**Your answer is correct!**

The statement is true

Amylin is co-secreted with insulin from pancreatic  $\beta$  cells in response to food intake

Hay DL et al. *Pharmacol Rev* 2015;67:564–600.

**NEXT** >



# Question 1

**True or false:** Amylin is co-secreted with insulin from pancreatic  $\beta$  cells in response to food intake.

**A.** True

**B.** False

**Your answer is incorrect**

The statement is true

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Hay DL et al. *Pharmacol Rev* 2015;67:564–600.

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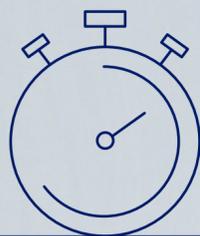
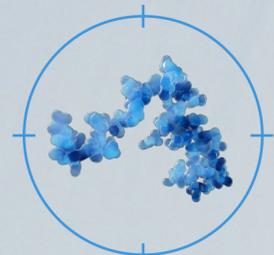


## Question 2

**True or false:** The metabolic actions of amylin are mediated through its binding to insulin receptors.

**A.** True

**B.** False



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## Question 2

**True or false:** The metabolic actions of amylin are mediated through its binding to insulin receptors.

**A. True**

**B. False**



**Your answer is incorrect**

The statement is false

The metabolic actions of amylin are mediated through binding to specific amylin receptors

Hay DL et al. *Pharmacol Rev* 2015;67:564–600.

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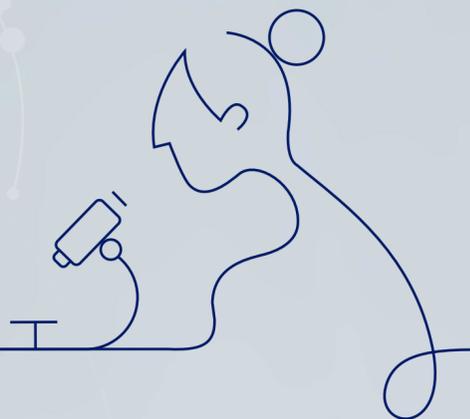
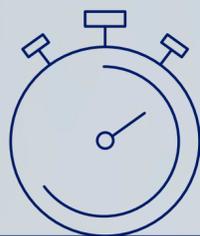
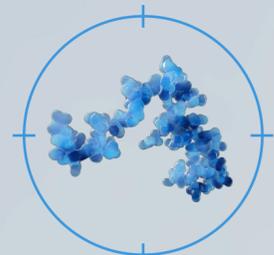
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## Question 2

**True or false:** The metabolic actions of amylin are mediated through its binding to insulin receptors.

**A.** True

**B.** False



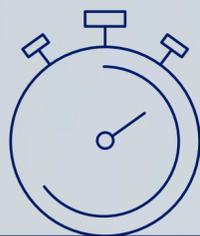
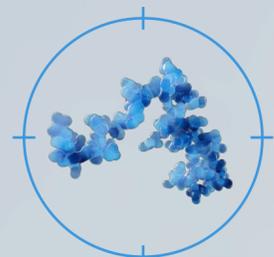
**Your answer is correct!**

The statement is false

The metabolic actions of amylin are mediated through binding to specific amylin receptors

Hay DL et al. *Pharmacol Rev* 2015;67:564–600.

**NEXT** >



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# Question 3

**True or false:** The calcitonin receptor has the highest affinity for amylin.

**A.** True

**B.** False



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# Question 3

**True or false:** The calcitonin receptor has the highest affinity for amylin.

**A. True**

**B. False**



**Your answer is incorrect**

The statement is false

In the absence of a receptor activity-modifying protein (RAMP), the calcitonin receptor has the greatest affinity for calcitonin

Hay DL et al. *Pharmacol Rev* 2015;67:564–600;  
Bower RL, Hay DL. *Br J Pharmacol* 2016;173:1883–98.

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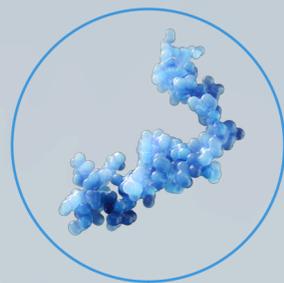


# Question 4

**True or false:** The amylin receptor 1 is composed of a calcitonin receptor and another G-protein coupled receptor.

**A.** True

**B.** False



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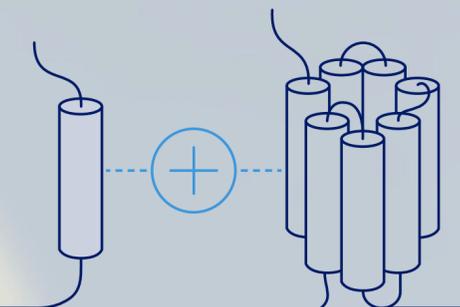
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# Question 4

**True or false:** The amylin receptor 1 is composed of a calcitonin receptor and another G-protein coupled receptor.

**A. True**

**B. False**

**Your answer is incorrect**

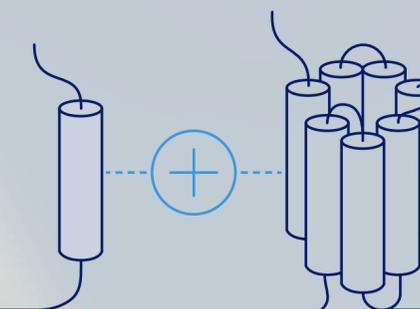
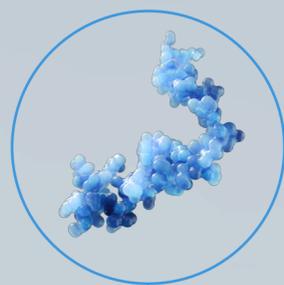
The statement is false

The amylin receptor 1 is composed of the G-protein coupled receptor, calcitonin receptor and RAMP1

Bower RL, Hay DL. *Br J Pharmacol* 2016;173:1883–98.

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# Question 4

**True or false:** The amylin receptor 1 is composed of a calcitonin receptor and another G-protein coupled receptor.

**A.** True

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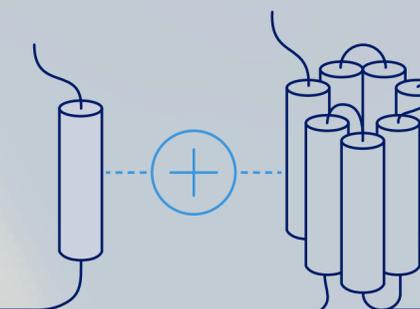
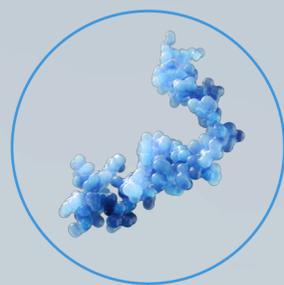
**Your answer is correct!**

The statement is false

The amylin receptor 1 is composed of the G-protein coupled receptor, calcitonin receptor and RAMP1

Bower RL, Hay DL. *Br J Pharmacol* 2016;173:1883–98.

**NEXT** >



# Question 5

**True or false:** Amylin binds to its receptor via a “three-domain model for binding” approach.

**A.** True

**B.** False



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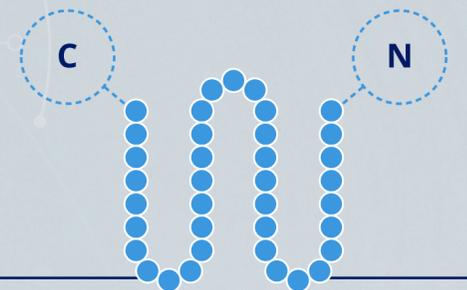
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# Question 5

**True or false:** Amylin binds to its receptor via a “three-domain model for binding” approach.

**A. True**

**B. False**

## Your answer is incorrect

The statement is false

Amylin binds to its receptor via a “two-domain model for binding” approach. The C-terminus of amylin binds to the extracellular N-terminus of the receptor, allowing amylin to dock. This optimally aligns the N-terminus of amylin to the receptor, ultimately causing receptor activation

Bower RL, Hay DL. *Br J Pharmacol* 2016;173:1883–98.

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# Question 5

**True or false:** Amylin binds to its receptor via a “three-domain model for binding” approach.

**A.** True

**B.** False



**Your answer is correct!**

The statement is false

Amylin binds to its receptor via a “two-domain model for binding” approach. The C-terminus of amylin binds to the extracellular N-terminus of the receptor, allowing amylin to dock. This optimally aligns the N-terminus of amylin to the receptor, ultimately causing receptor activation

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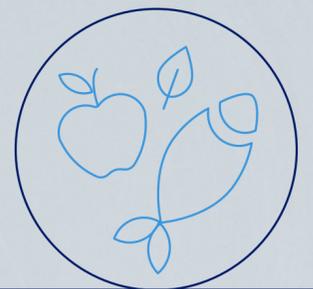
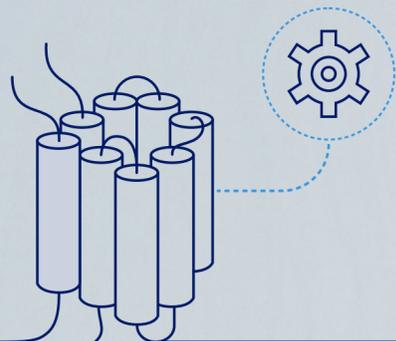


# Question 6

**True or false:** The activation of amylin receptors involves the activation of cyclic AMP.

**A.** True

**B.** False



# Question 6

**True or false:** The activation of amylin receptors involves the activation of cyclic AMP.

**A. True**

**B. False**



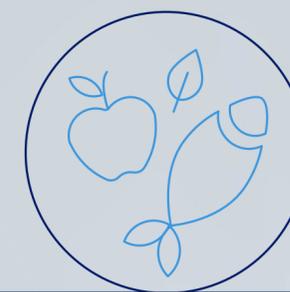
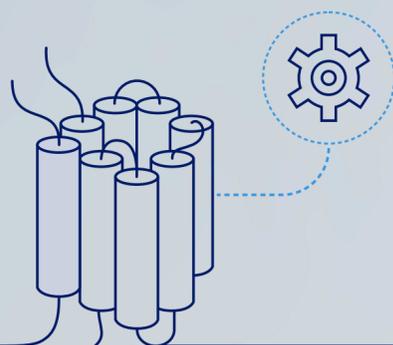
**Your answer is correct!**

The statement is true

Upon binding to the amylin receptor, the Gs-coupled intracellular pathway is triggered, resulting in elevated levels of cyclic AMP

Hay DL et al. *Pharmacol Rev* 2015;67:564–600.

**NEXT** >



# Question 6

**True or false:** The activation of amylin receptors involves the activation of cyclic AMP.

**A.** True

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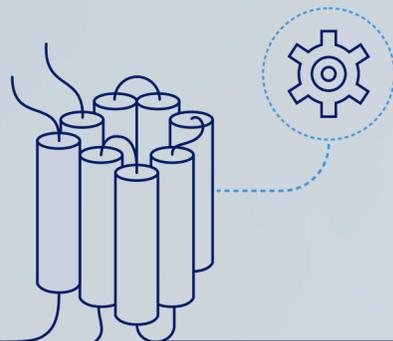
**Your answer is incorrect**

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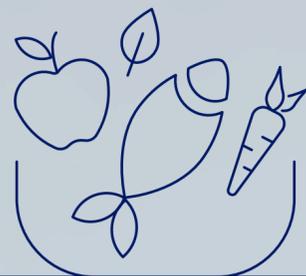
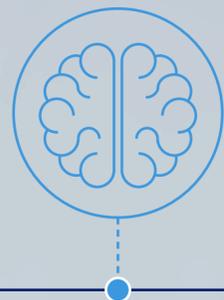


# Question 7

**True or false:** Colocalization of the calcitonin receptor and RAMPs 1 and 3 has been demonstrated in brain regions involved in appetite regulation.

**A.** True

**B.** False



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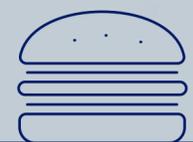
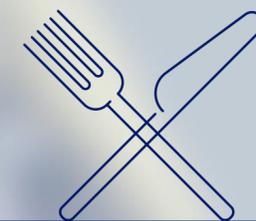
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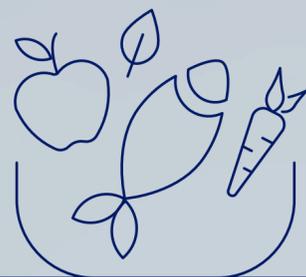
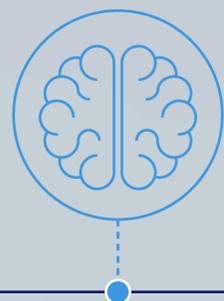
**Your answer is correct!**

The statement is true

Functional studies using animal models have shown that amylin binds to the area postrema of the hindbrain and the arcuate nucleus of the hypothalamus—key regions of the brain associated with appetite regulation

Mathiesen DS et al. *Front Endocrinol (Lausanne)* 2021;11:617400;  
Skovbjerg G et al. *Eur J Neurosci* 2021;54:4154–66.

**NEXT** >



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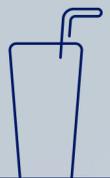
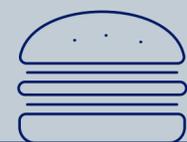
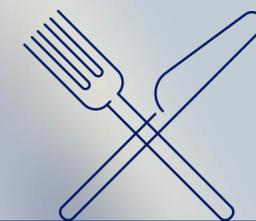
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# Question 7

**True or false:** Colocalization of the calcitonin receptor and RAMPs 1 and 3 has been demonstrated in brain regions involved in appetite regulation.

**A.** True

**B.** False

**Your answer is incorrect**

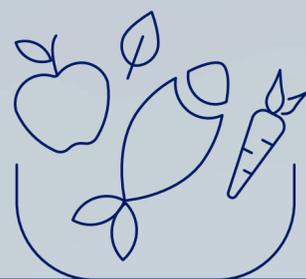
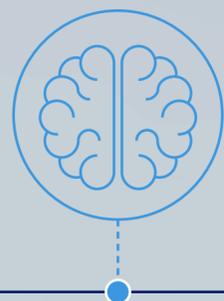
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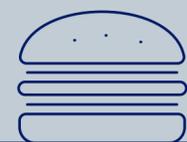
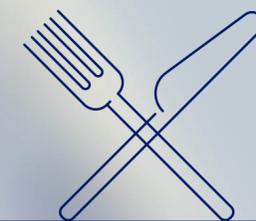
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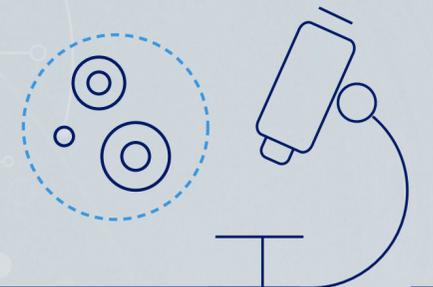
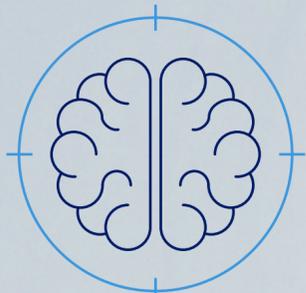


# Question 8

**True or false:** The exact downstream effects of all amylin receptors are fully understood.

**A.** True

**B.** False



# Question 8

**True or false:** The exact downstream effects of all amylin receptors are fully understood.

**A. True**

**B. False**



## Your answer is incorrect

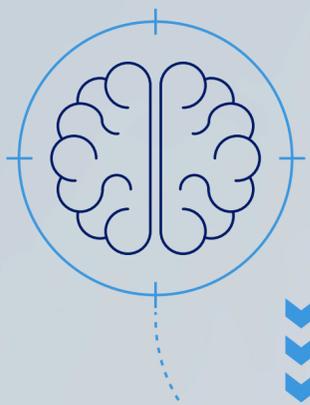
The statement is false

Current evidence suggests that the AMY1 may have a role in controlling fat storage and utilization whereas AMY3 is responsible for glucose homeostasis and inhibiting food intake. The exact effects of AMY2 remain unconfirmed

Lutz TA. *Appetite* 2022;172:105965;  
Coester B et al. *Neuroscience* 2020;447:74–93.

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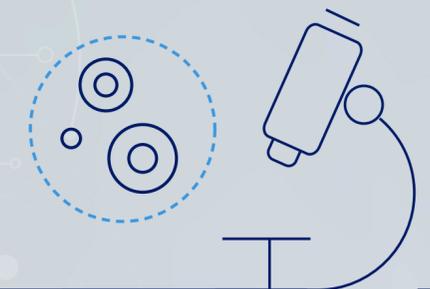
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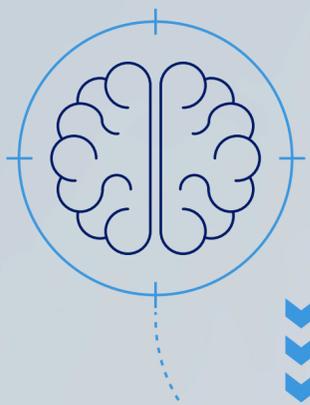
**Your answer is correct!**

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Current evidence suggests that the AMY1 may have a role in controlling fat storage and utilization whereas AMY3 is responsible for glucose homeostasis and inhibiting food intake. The exact effects of AMY2 remain unconfirmed

Lutz TA. *Appetite* 2022;172:105965;  
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**NEXT** >



You have completed the quiz!

**Module 3: Amylin receptors**

