

Introduction to genetics and patterns of inheritance

8. Gene Linkage and Polyploidy: Gene Mapping

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Lesson | Optional

Review

Select the correct answer.

Which pair of the following linked genes will have the lowest recombination frequency?



- ○ A and D
- ○ C and A
- ○ A and B
- ◉ D and C ✓

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The genes D and C have the least recombination frequency.

Drag and drop the correct option to complete the sentence.

If the linked genes on a chromosome have the order BAC, then 1. B and C ✓ are the furthest genes on that chromosome.

A and B | A and C | A and B and C

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1. B and C ✓

B and C will be the furthest genes on the chromosome map.

Select the correct answer.

Which linked gene pair will have the highest recombination frequency?



- [x] A and C
- [ ] A and D
- [ ] B and C
- [ ] C and D

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On this chromosome map, genes A and C are located furthest apart, so they will have the highest recombination frequency (RF).

Select the best choice from the drop-down menu.

Linked Gene Pair	Recombination Frequency
A - B	10%
C - B	2%
A - C	8%

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From the above table, you can tell that the order of the genes on the chromosome is

1. ACB ✓ .

1. ACB ✓

From the information provided, C has to be between A and B.

Select the best choice from the drop-down menu.

The recombination frequency is an indication of the 1. relative distance ✓ between linked genes on a chromosome.

1. relative distance ✓

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Recombination frequency gives us an indication of how far apart or close together two linked genes are.

Select the correct answer.

Linked Gene Pair	Recombination Frequency
A - B	1%
A - C	11%
C - D	12%
B - D	24%

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Use the table to answer the question.

Which gene pair are the furthest apart on the chromosome?

- ○ A and B
- ◉ B and D ✓
- ○ C and D
- ○ B and C

B and D genes have the greatest RF, so they are the furthest apart.