

**Negative Mutation**

Growth rate reduced  
to 1.5x

*only half of your bacteria  
reproduce each turn*

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**Positive Mutation**

Growth rate increased  
to 2.5x

*half of your bacteria  
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**Neutral Mutation**

Growth rate remains at 2x  
*all of your bacteria reproduce each turn*

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**Antibiotic Resistance**

Your bacteria will not be killed in the event of antibiotic treatment

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## **Antibiotic treatment**

Most bacteria are killed but resistant ones are unaffected

**All players return to a single bacterium, except those with an antibiotic resistance mutation**

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## **Vaccination**

All potential hosts are now immune, no further growth is possible

**Game over**

## **Broad-spectrum antibiotic treatment**

All bacteria are killed

**Game over**

## **Other infection**

Host immune system is weakened by another infection

**All players double their bacteria, regardless of existing mutations**

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