

## Solutions

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Each answer shows the steps, then the **result**.

### 2.1

- A receptor (protein)

### 2.2

- Direct contact, local signaling, long-distance signaling

### 2.3

- Only cells with the matching receptor can bind the hormone and respond

### 3.1 B

- receptor

### 3.2

(a)

- Long-distance (hormonal) signaling

(b)

- Only liver and muscle cells have the insulin receptor, so only they can bind it and respond

### 3.3

- Local signaling reaches nearby cells by diffusion over short distances; long-distance signaling uses hormones carried in the blood to reach distant target cells