

# Mystery Cell Model A

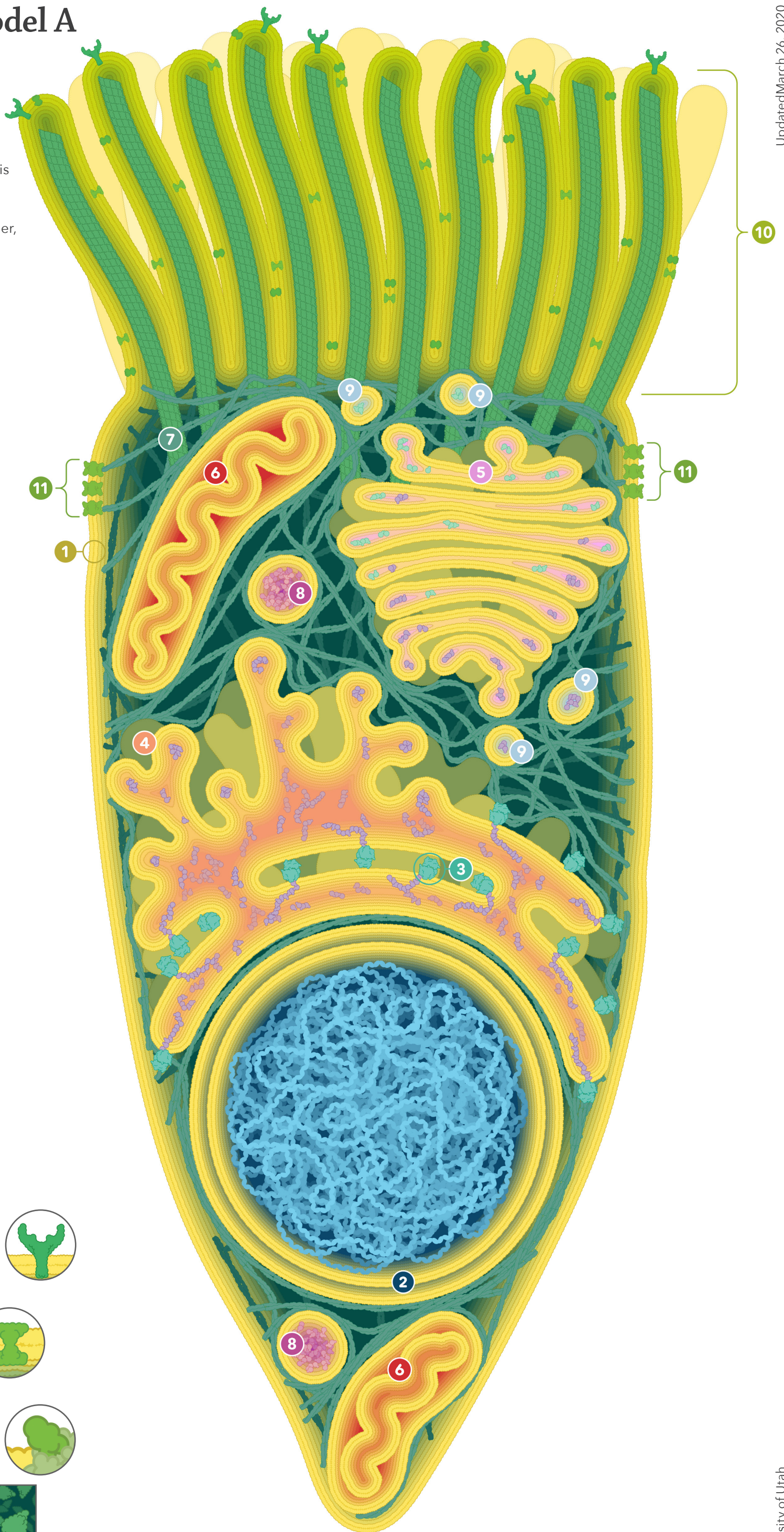
## Specialized cell parts

### Cilia

- Move in a wave-like motion
- Push away mucus & trapped debris

### Cell junctions

- Connect neighboring cells together, forming a strong barrier.



## Specialized proteins

### Surface protein

- Cells have lots of proteins on their membranes. This one sits in the membrane of the cilia.



### Defense proteins

- Recognize invading viruses and bacteria, and send a signal to respond



### Cell junction protein

- Along with other proteins, makes up the structure of the cell junctions



### Tubulin protein

- Building block of cytoskeleton fibers inside cilia



# Mystery Cell Model B

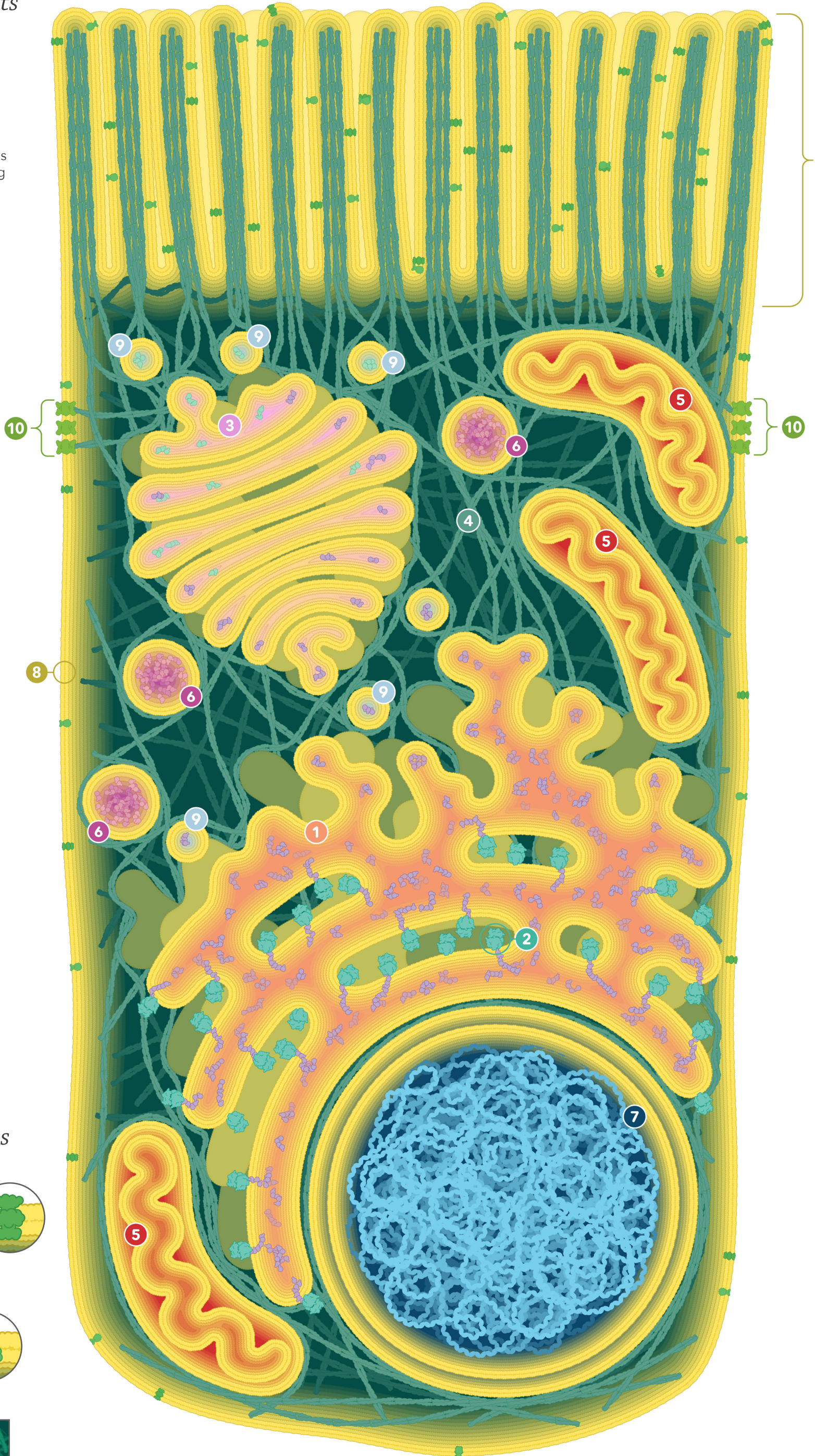
## Specialized cell parts

### Microvilli

- Add lots of surface area
- Have proteins that pull nutrients into the cell

### Cell junctions

- Connect neighboring cells together, forming a strong barrier.



## Specialized proteins

### Digestive enzymes

- Break down food to release nutrients



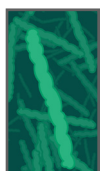
### Nutrient transporters

- Move nutrients across a membrane



### Actin

- Building block of cytoskeleton fibers inside microvilli



# Mystery Cell Model C

## Specialized cell parts

### Cell wall

- Protects the cell from injury
- Provides support

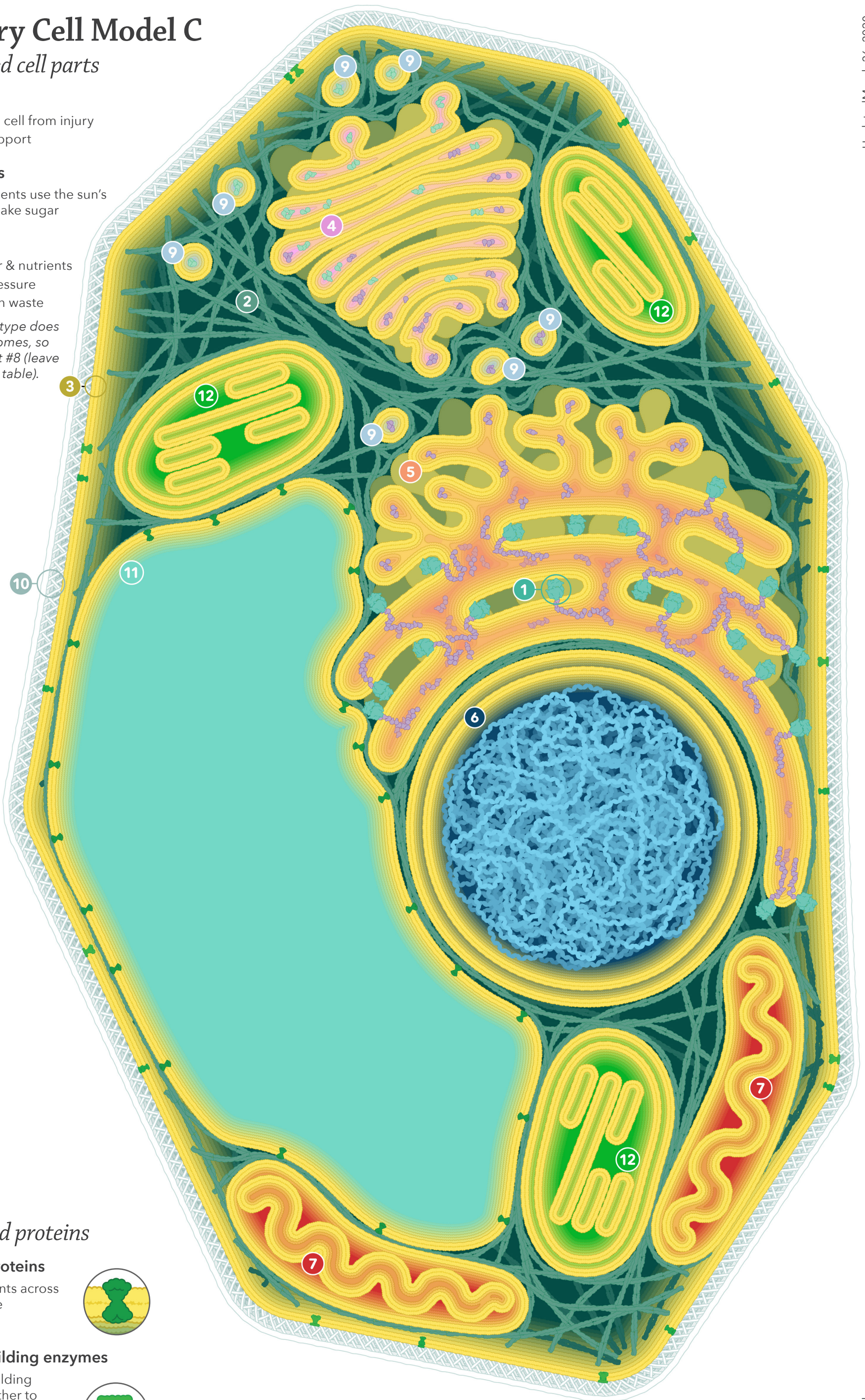
### Chloroplasts

- Green pigments use the sun's energy to make sugar

### Vacuole

- Stores water & nutrients
- Provides pressure
- Breaks down waste

Note: This cell type does not have lysosomes, so there is no part #8 (leave it blank in your table).



## Specialized proteins

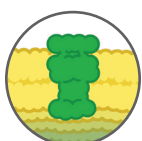
### Transport proteins

- Move nutrients across a membrane

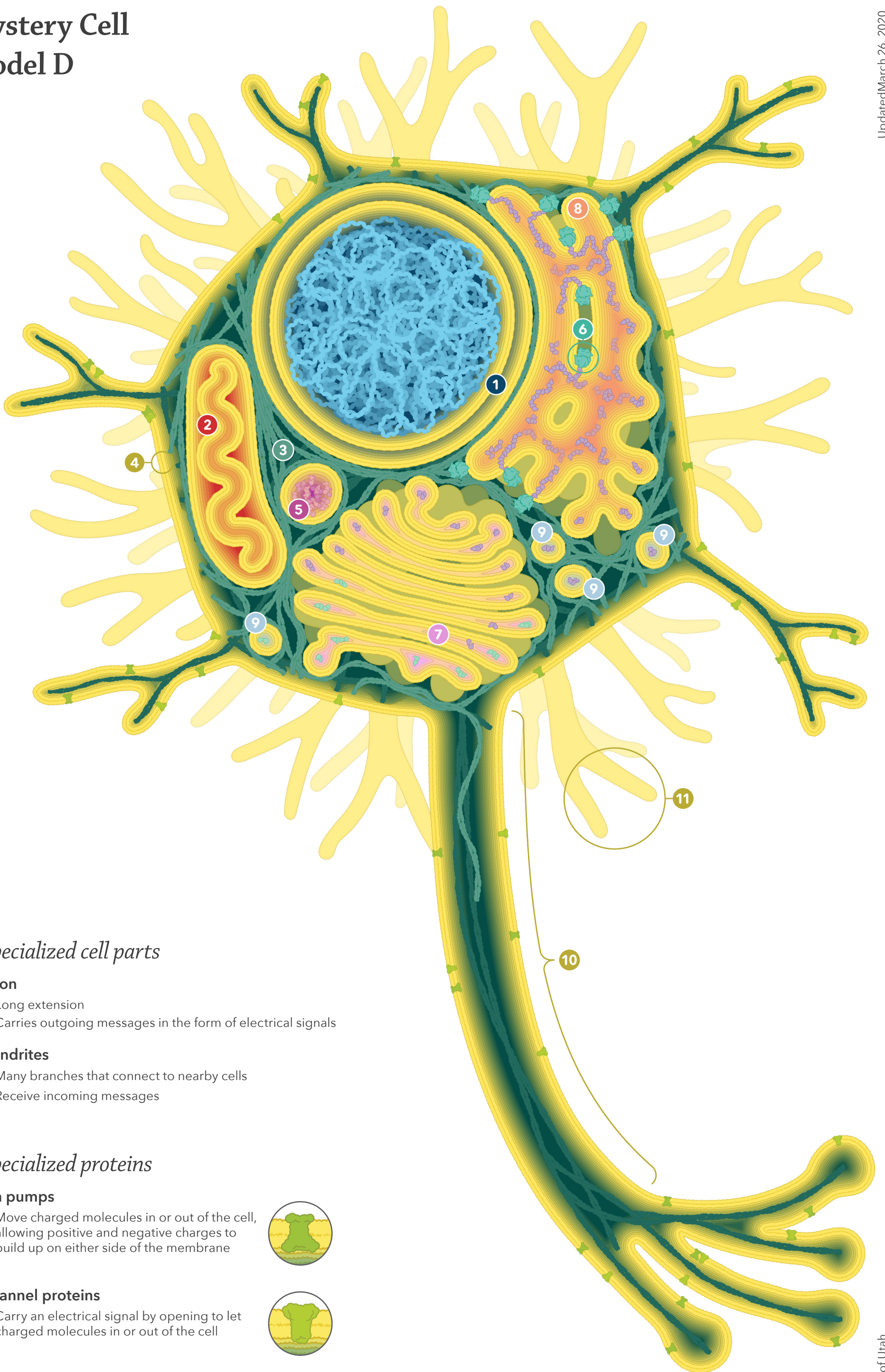


### Cell-wall building enzymes

- Connect building blocks together to build pieces of cell wall



# Mystery Cell Model D



## *Specialized cell parts*

### **Axon**

- Long extension
- Carries outgoing messages in the form of electrical signals

### **Dendrites**

- Many branches that connect to nearby cells
- Receive incoming messages

## *Specialized proteins*

### **Ion pumps**

- Move charged molecules in or out of the cell, allowing positive and negative charges to build up on either side of the membrane



### **Channel proteins**

- Carry an electrical signal by opening to let charged molecules in or out of the cell



# Mystery Cell Model E

## Specialized cell parts

### Vacuole

- Stores water & nutrients
- Provides pressure
- Breaks down waste

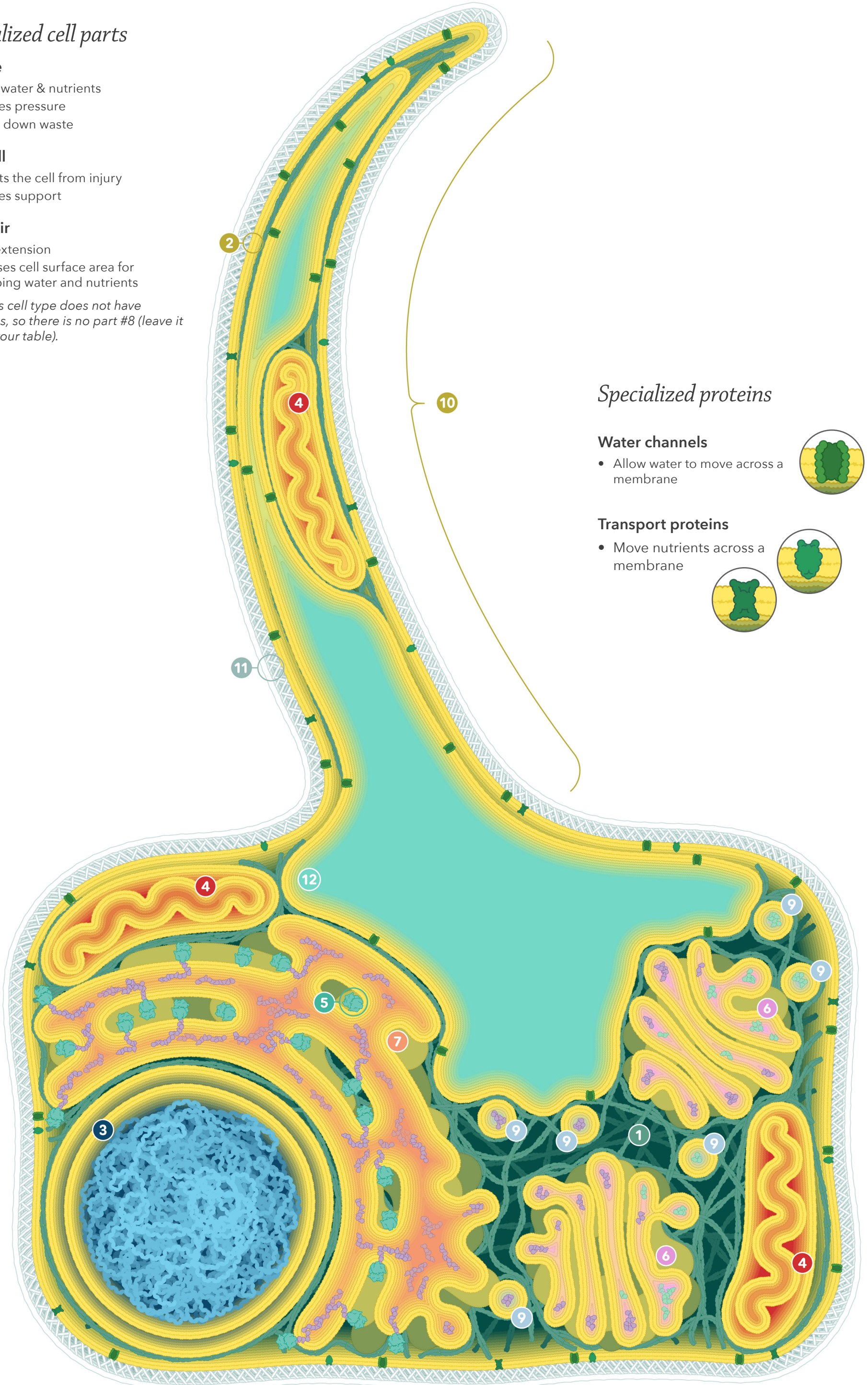
### Cell wall

- Protects the cell from injury
- Provides support

### Root hair

- Long extension
- Increases cell surface area for absorbing water and nutrients

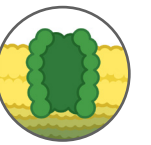
Note: This cell type does not have lysosomes, so there is no part #8 (leave it blank in your table).



## Specialized proteins

### Water channels

- Allow water to move across a membrane



### Transport proteins

- Move nutrients across a membrane

