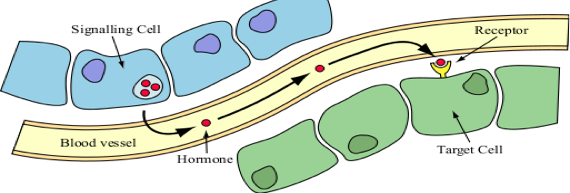
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**LE Cell Membrane Functions**

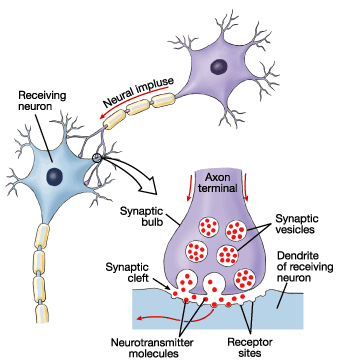
|  |  |
| --- | --- |
| Functions |  |
| A.Protection | Isolates and protects the inside of the cell.   * Cells internal environment has to remain constant * pH and concentrations of cell substances must remain constant   + Maintain homeostasis * Maintenance of cell homeostasis a result of the cell membranes properties |
| B.Cell Communication | 1. Ways: 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_: Hormones are specific. Molecules travel from a signaling cell to a target cell through the blood stream 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_: Message travels from one cell to another through nerve signals. |
| C.Controls what goes in/out | Semi-permeable (*Like a screen*)   * Certain substances pass through the cell membrane more easily than others. * Substances that pass through more easily: *Lipids, alcohols, water, glucose, amino acids., CO2, O2* * Substances that can’t pass through easily: Proteins *and starches*   2 Types of Transport   * \_\_\_\_\_\_\_\_\_\_\_\_ Transportation * Active Transportation  1. Passive:  * Ex: Diffusion & Osmosis * Travels from HIGH to LOW * No ATP required   **Diffusion**: Molecules tend to spread from a region of higher concentration to lower concentration  **Osmosis**: Movement of ***water*** from high to low concentrations of WATER through a semipermeable membrane!   1. Active:  * Ex: Phagocytosis * Travels from LOW to HIGH * ATP Required *(Energy is used*) |

*B: Cell Communication: Hormones*

**

* Hormones are specific (They travel to a specific target cell for a cell response)
* Molecules travel from a signaling cell to a target cell through the blood stream

*B: Cell Communication: Neurotransmitters*

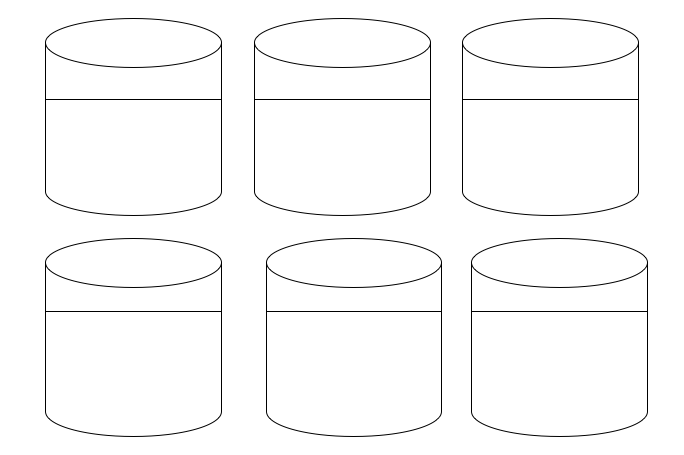
**

* *A Neuron is a type of cell*
* *A chemical message travels from one neuron to another through a nerve signal*

*C. Controls what comes in and out of cell*

*Passive vs Active Transportation*

|  |  |
| --- | --- |
| ***Passive Transportation*** | ***Active Transportation*** |



*Passive Transport*

*Diffusion*:

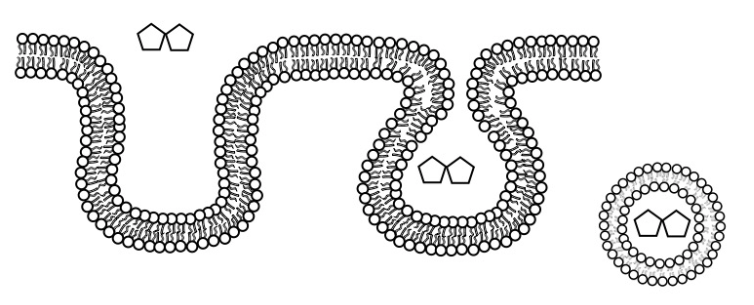
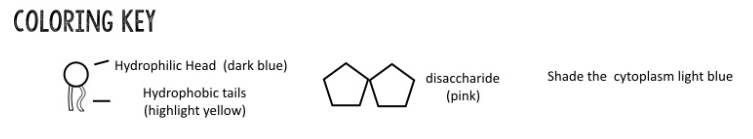
Colored Dye Movement

*Osmosis:* Solution Types

|  |  |  |
| --- | --- | --- |
| Isotonic: same concentration in and out of cell of WATER  ***ISO=Same*** | Hypotonic: low concentration in the cell… HIGH Outside  water concentration  **Hypo= “Hipo”large animal** | Hypertonic: high concentration in the cell… LOW outside  water concentration  **Hyper= child will lose calories and “shrink”** |
| /Users/emilyumile/Desktop/Screen Shot 2017-12-10 at 2.48.54 PM.png | /Users/emilyumile/Desktop/Screen Shot 2017-12-10 at 2.48.54 PM.png | /Users/emilyumile/Desktop/Screen Shot 2017-12-10 at 2.48.54 PM.png |

*Active Transportation:*

*Phagocytosis*

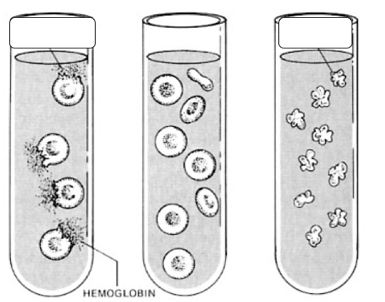


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**LE Cells Daily Quiz**

1. There are 3 functions of the cell membrane, list two.
2. What are the two ways cell communicate?
3. Does Active Transport require ATP?
4. *Name the solution type and the resulting change to the red blood cell in the tube using the provided word bank.*

|  |  |  |
| --- | --- | --- |
| Cell stays the same. | Water moved into cell (Cell bursting) | Isotonic |
| Water moved out of cell (Cell shrinking) | Hypotonic | Hypertonic |



Solution Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cell Change: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_