

B) Active Transport

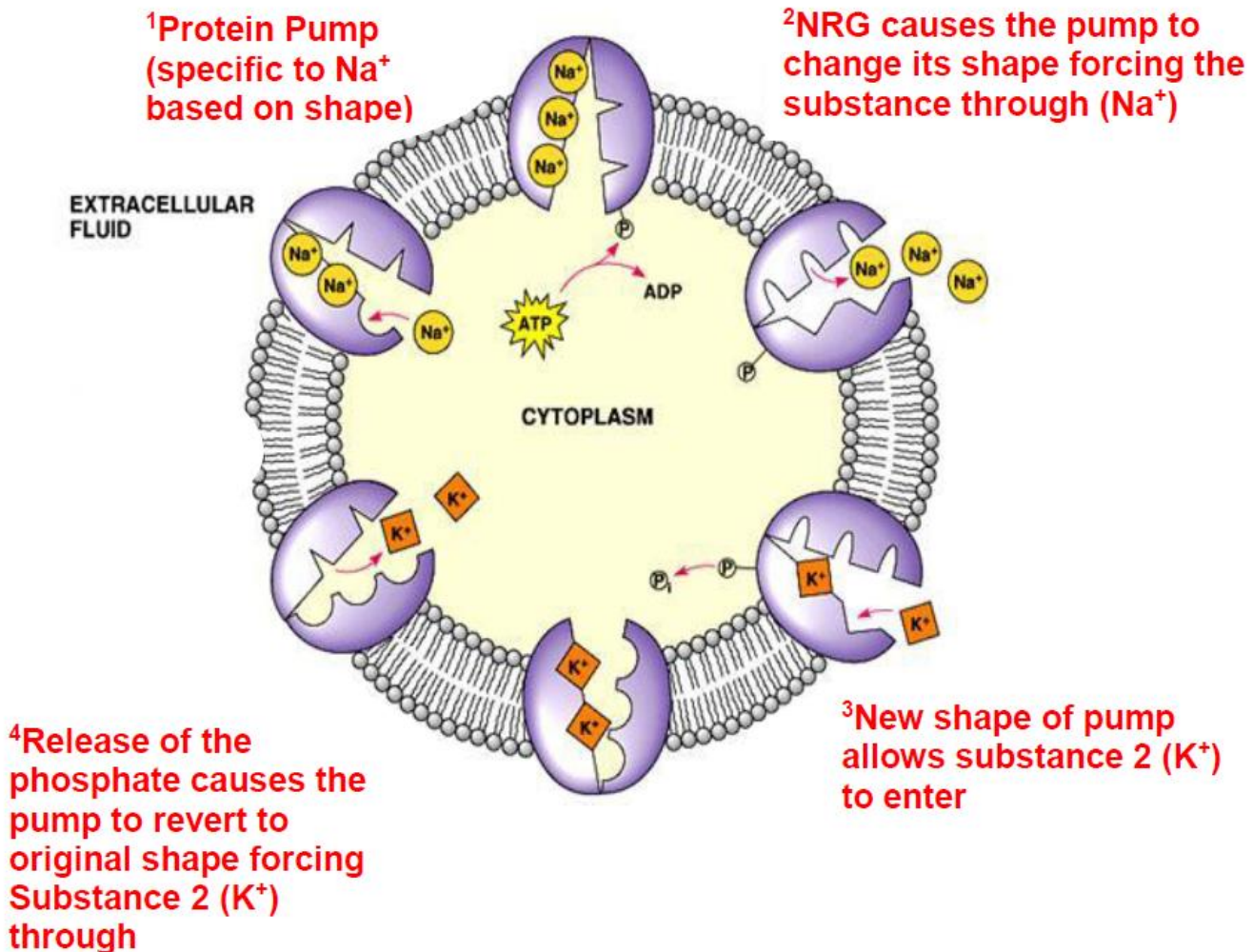
- = movement of substances across the cell membrane requiring the cell to use its own energy
- energy is needed to move molecules from an area of low concentration to an area of high concentration (against the concentration gradient)
- modes of active transport:

1. Facilitated Transport

- = a 'protein pump'
- special protein carrier molecules in the cell membrane receive an energy boost from the cell which helps them transport molecules against the concentration gradient*
- some actively pump materials out of the cell as well
- Energy used is in the form of **ATP** (Adenosine Triphosphate)

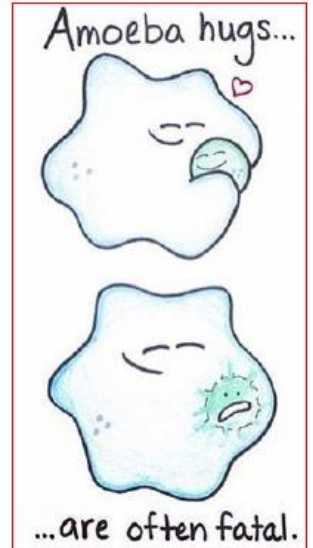


<https://www.youtube.com/watch?v=bPFKD>



2. Endocytosis

- endo = into; cytosis = movement of substances within the cell by means of the cytoplasm
- transport of large molecules (ie. lipids, proteins, amino acids) into the cell by **engulfing (surrounding) the molecule with pseudopods until it has been enclosed within a vacuole**
- molecules are then digested by enzymes from the lysosomes
- two forms of endocytosis:
 - a) Phagocytosis
 - : process through which cells engulf **solid particles**
 - : ie. **amoeba, white blood cells**
 - b) Pinocytosis
 - : process through which cells engulf **liquid droplets**
 - : ie. **fat droplets** are engulfed by cells in the small intestine



3. Exocytosis

- exo = out of
- large molecules (ie. wastes, excess water) are stored in vacuoles **which move to and join with the cell membrane expelling their contents**
- = opposite of endocytosis

