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BIO LAB 2311-OL28

Lap Report: Osmosis and Diffusion

Title: Observing Diffusion and Osmosis Through Membranes

Objective: Observe movement across the cell membrane

Material:

* 4 dialysis sacks
* Benedict solution
* Distilled water
* 4 beakers
* Wax pencil
* Timer
* Scale
* Paper towels
* 40% sucrose solution
* 10% NaCl solution
* 40% glucose solution
* Paper small funnel

Methods:

1. Label all the beakers from 1 to 4 and beaker one gets 125ml of distilled water, beaker 2 gets 125ml of 40% glucose solution, beaker3 gets 125ml of distilled water and beaker 4 gets 125ml of distilled water.
2. Now setting aside the beakers, take the dialysis sac and; use the small funnel to fill sac 1 with 20ml and 40% glucose solution, sac 2 with 20ml of distilled water and 40% glucose solution, sac 3 with 20ml of distilled water of 10% NaCl solution, and sac 4 fil with 20ml of distilled water. After filling them up push the air out of each sac and seal up the sacs.
3. Take the sacs and rinse them under water and take a paper towel to dry it well.
4. Use the scale to weigh how much each sac is and write it down onto the table
5. Take each sac and take it one of them that correlate with the specific beaker and slowly put it in. If it shows that the sac isn’t fully covered by the water add a little bit of liquid.
6. Set a timer for 45min
7. After the timer goes off remove the sacs from the beakers and dry it off and put it on the scale to weigh it once again
8. After weighing the sacs write it onto the table and try to see the difference between the first weight and the final weight of the sac

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| --- | --- | --- | --- | --- | --- | --- |
| Beaker | Contents of Sacks | Initial weight | Final Weight | Weight Change | Tests-beaker  fluid | Tests-sacks fluid |
| Beaker #1- 125ml of distilled water | Sack #1- 20ml of 40% glucose solution | 7.1gm | 8.0gm | +0.9gm | Benedict positive | Benedict positive |
| Beaker #2- 125ml of 40% glucose solution | Sack #2- 20ml of 40% glucose | 6.9gm | 6.9gm | No Change | Didn’t test but the fluid tested positive due to the use of the glucose solution | Negative |
| Beaker #3- 125ml of distilled water | Sack #3- 20ml of 10% solution | 7.2gm | 7.8gm | +0.6gm | AgNO3 tested positive | AgNO3 positive |
| Beaker #4- 125ml of distilled water | Sack #4- 20m of 40% sucrose solution | 7.1gm | 8.0gm | +0.9gm | Benedict positive | Negative |

Conclusion:

The intention of this experiment was to observe osmosis and diffusion in a controlled environment. When the experiment was occurring, you can they see the different colors going on in the beaker water and as well as the water into the sac. When going through each sac you are able to see that for some osmosis and diffusion occurred. For sac 1 after the 45 minutes it was about to gain weight which shows that it was in the hypotonic solution and the molecules moved from the beaker into the sac. For sac 2 there wasn’t any sort of change in the with due to the concentration of the beaker solution and the sac solution are equal which makes it a isotonic solution. For sac 3, osmosis and diffusion occurred and the weight has changed the two which showed that the beaker solution was hypotonic solution and moved from the beaker into the sac. And lastly, sac 4 had osmosis and diffusion occurred was it has gained weight and the solution in the beaker was hypotonic and has passed through the sac which made it test negative.