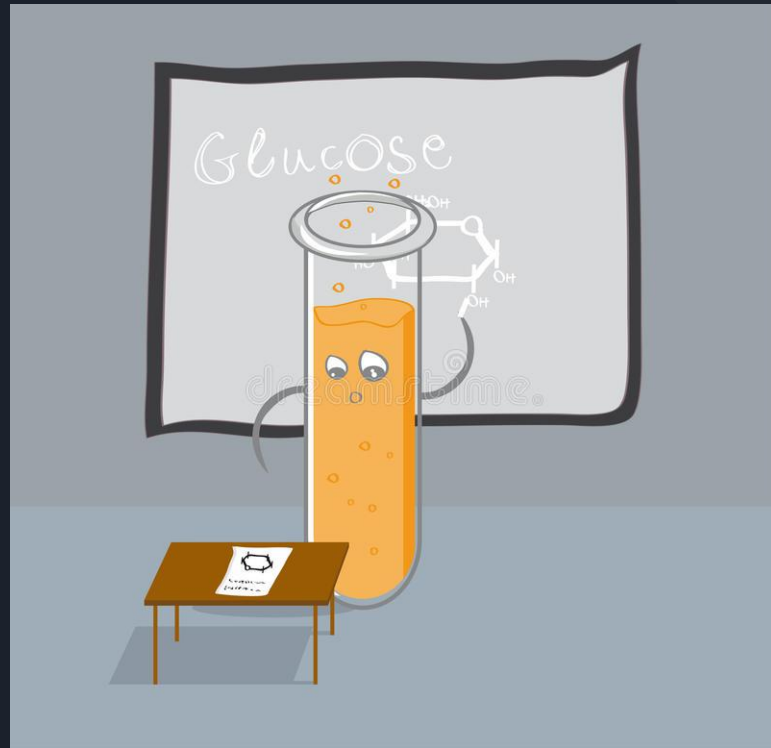


Chemistry of Carbohydrates:  
Glucose Oxidase Test



Marta Barys, Melinda Cates, and Natasha Tajdin



# Theory Behind the Glucose Oxidase Test

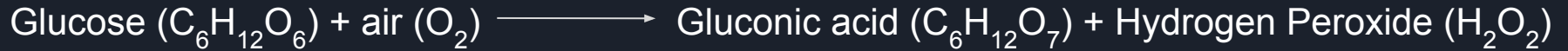
The glucose oxidase test uses an oxidizable dye and the enzyme glucose oxidase, which converts glucose into gluconic acid and hydrogen peroxide.

Hydrogen Peroxide then reacts with an oxidizable dye (such as the potassium iodide on the Diastix strips) and cause a change in color (brown color).



# Reaction Process

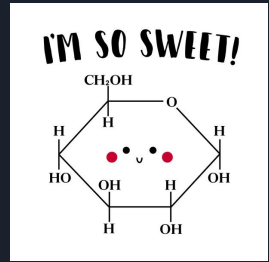
Glucose oxidase



Substances having peroxidative activity



# Summary of Procedure



## Observations:

- Look for complete color change
- Make sure to set a timer

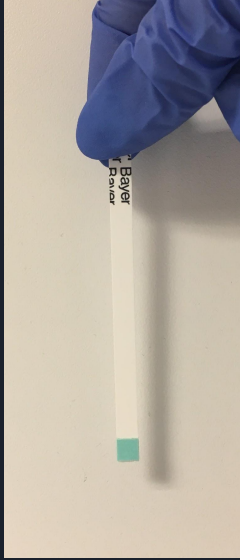
## Things to be aware of:

- Remember this is an all or nothing test - it is either positive or negative
- Use tape to dip test strips, or container with larger opening

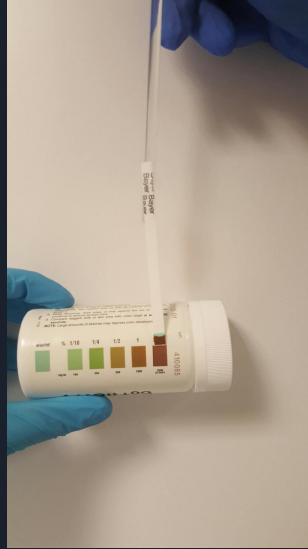
## Controls:

- Positive control: use Glucose
- Negative control: use water

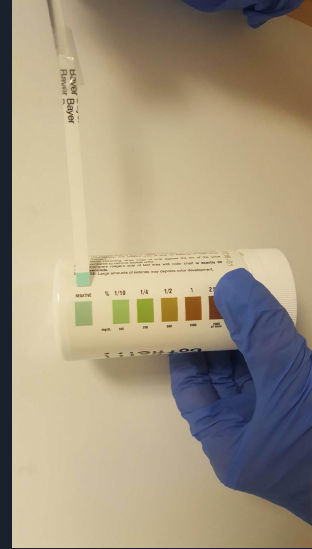
# Results



Before



Glucose 1%



Maltose 1%



Maltose 10%

## Conclusion

This test is used to determine whether or not there is monosaccharide glucose present within the unknown carbohydrate.





# References

Jr., MD Robert Ferry. "Tips for Managing Type 1 and 2 Diabetes at Home Symptoms, Treatment, Causes - Urine glucose tests." MedicineNet. N.p., n.d. Web. 01 Aug. 2017.

"Patent EP0386562A2 - Stabilization of oxidase enzyme-based test strips." Google Patents. Google, n.d. Web. 01 Aug. 2017.