

# Example of report on testing proteins using the biuret test

[Technology](#), [Development](#)



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## **Introduction**

The biuret test is a test that is used to test for proteins. More specifically, it tests for presence of peptide bond in a sample. According to Janiro, Sy, Yap, Llanos-Lazaro and Robles (78), the biuret test is one of the earliest methods that have been developed for determining protein content. The biuret reagent reacts with amino acids bonded but does not react with molecules like starches, sugars, vitamins and fats. A sample containing peptide bonds will react with the biuret reagent to form a purple colored complex. The amount of color produced is directly proportional to the amount of protein present (Nigam and Ayyagari, 48). Thus, if the amount of color produced is high then the quantity of proteins is high. This complex product consists of a copper atom and two nitrogen atoms. Based on several studies, the biuret

test has been deemed reliable. Most laboratories tend to use this method for testing proteins because it is simple reliable and a fast method (Janiro, Sy, Yap, Llanos-Lazaro and Robles 78).

## **Objective**

The objective for the experiment was to use biuret reagent to test foods for the presence of protein and to use the process of scientific inquiry to determine relative amounts of proteins in the foods tested.

## **Hypothesis**

Biuret reagent will turn purple in the presence of proteins. The degree or intensity of color change will dependent on the amount proteins present in the foods.

## **Controls for Biuret Protein Test**

Water was used as a negative control and albumin used as a positive control. Each of these was placed in equal proportions of 1ml in labeled test tubes. Then a biuret reagent was added to each test tube.

## **Materials**

The materials used for this lab experiment included salmon, chicken breast, green beans, lentils, red meat, eggs, potato, apples, olive oil, powered sugar and juice.

## **Method**

The first step involved testing of controls and recording the observations. Then a small amount of food was ground with a mortar and then placed into

a test tube. About 3-5ml of Biuret Reagent was added to the test tube and the color changed observed. The results were recorded in a table. This process was done for the different foods.

## **Results**

### Discussions

The albumin reacted with the biuret reagent to turn purple. Albumin is a known protein complex hence the positive color change. This is then supports the hypothesis that the biuret reagent turned purple in presence of protein. The final color of the distilled water was blue, which indicated the absence of protein in the water. Food components that contained protein caused the biuret reagent to turn purple whereas those that contained starch such as the potato remained blue indicating lack of peptide bonds.

## **Conclusion**

The albumin is a known protein hence the purple change. Distilled water does not contain any protein hence the distilled water retains the color of the of biuret reagent. In case the food is a starch, the final color of the mixture remains blue as starch does not contain peptide bonds. This is the case for the potato.

## **Works Cited**

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