**Lab sheet #3**

**-Quantitative Protein Estimation of Urine-**

**-Objectives:**

* Quantitative estimation of protein in urine by turbidimetric methods using sulfosalicylic acid.

**-Method:**

* Set up a series of test tube as follows, label from 1- 6:

|  |  |  |
| --- | --- | --- |
| **Tube** | **Protein solution (140 mg/dl)**  **(ml)** | **0.85% Saline (ml)** |
| **1** | 4.5 | 1.5 |
| **2** | 3 | 3 |
| **3** | 2.4 | 3.6 |
| **4** | 1.5 | 4.5 |
| **5** | 0.9 | 5.1 |
| **6** | 0.3 | 5.7 |

* Label a new set of test tubes **1 to 6**, **blank**, **urine sample** :

1. Add 8 ml of sulphosalisalic acid to each test tube.
2. Into tube 1 pipette 2 ml of protein solution 1(that you prepared before).
3. Into tube 2 pipette 2 ml of protein solution 2 … etc
4. In the **blank** add 2 ml of 0.85% Saline.
5. To **urine sample** add 2 ml of unknown sample.

* Mix the content of each tube well and allow to stand for **five minutes**.
* Use blank to set transmittance 100% at **500nm**.
* Then use solutions from 1-6, to recorded respective transmittance of each suspension.
* Record your results.

**-Results:**

|  |  |  |
| --- | --- | --- |
| **Tube** | **Transmittance at 500nm** | **Protein concentration (mg/dl)** |
| Blank |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| Urine sample |  |  |

* Plot transmittance against protein concentration (mg/dl).
* Read the protein concentration of urine sample from the standard curve.
* Compare the result you got with the normal range of protein excretion in 24 h urine specimen if you know that the protein excretion in **healthy sample (0- less than 0.150g/24 h).**

**🡺Note:** Assuming that the 24 hour urine sample for the patient = 1000 ml.