

Hematology

Total Protein by Refractometry

Test	Minimum Volume (µl) of whole blood	Price
Total Protein by Refractometry	10	\$ 7.75
Laboratory Fee Processing Fee- (for every set of up to 10 samples submitted on the same day)		\$ 11.00

Listed rates are for the 2010-2011 fiscal year.

The protein value reported on the routine CBC is only an *estimate*, based on the refractive index of the plasma. Three important points need to be made regarding this procedure.

1. Since it is determined using EDTA plasma (which contains fibrinogen), this value usually will be higher than the total protein on chemistry panel (which is performed on *serum*).
2. The use of refractometry is valid for providing an **estimate** of plasma protein concentration, since protein is the major determinant of refractive index of plasma. It is not, however, the only contributor. All other dissolved solids (glucose, urea, cholesterol, etc) also make a contribution. In using a refractometer to "measure" protein, one is assuming that all non-protein solids are identical from one sample to the next. This is a big assumption, and it is not always correct. The estimate of protein based on refractometry will be significantly biased in patients with marked deviations from normal concentration of non-protein solids in blood.
3. For valid results, the plasma sample must be optically clear. Lipemic blood (or chylous pleural fluid), for example, will yield erroneously high results. In hemolyzed samples, the line can be difficult to read. In these cases, the total protein by refractometer result may be cancelled.

Specimen Collection, Handling and Storage

- Samples should be collected in a tube containing an **anticoagulant (EDTA)** to stop it from **clotting**. Mix the sample in the tube by inverting it 8 to 10 times.
- The quantity of whole blood should be filled up to the required fill line on the tube.
- Clotted samples will not be accepted.
- Do not freeze samples
- Sample should be submitted shortly after collection but not to exceed 24hrs.
- Do not combine samples from different animals in the same tube we cannot process these samples.
- All samples must be submitted with the appropriate paperwork. Please describe any potential biohazards associated with these samples.

For information on non-listed test please contact the DLAM Diagnostic Lab:
 Phone: 310-206-8120; Email: dlamlab@mednet.ucla.edu