values with increase in temperature, and vice versa. FTI values remain essentially unchanged.

References


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Sodium Fluoride Stabilizes Insulin at Room Temperature

To the Editor:

Insulin in serum is allegedly only briefly stable at room temperature. Although no data have appeared in the literature to support this contention, analysts traditionally store serum at −20 °C when the assay is to be delayed more than a few hours. This brief stability presents practical problems for physicians and reference laboratories because it necessitates mailing specimens on solid CO₂. We present data here that (a) confirm that insulin concentrations decline markedly when serum is stored at +30 °C for five days, (b) demonstrate that after addition of sodium fluoride to a final concentration of 5 g/liter of serum, insulin concentrations remain essentially unchanged at +30 °C for five days.

Specimens were drawn from volunteer laboratory personnel without regard to fasting. One aliquot of each serum sample was maintained at −20 °C as a known stable reference. NaF, 5 g/liter was added to a second aliquot, which was then stored at +30 °C in an incubation chamber. A third aliquot was stored at +30 °C without any additive. After five days the insulin concentration was determined in each aliquot of each sample in the same run. The radioimmunoassay method was that of Morgan and Lazarow (1). Insulin values for the frozen reference specimens ranged from 8 to 81 microunits/ml.

We used the graphical method of Thiers et al. (2) for data analysis. A standard deviation of 4 microunits/ml was chosen to approximate the SD over the range of samples used in the “additive” study. Specimens used in the “no additive” study had insulin values of 11–24 microunits/ml. For these, a standard deviation of 1.8 microunits/ml was used in plotting the graph. As seen in Figure 1, specimens stored with added sodium fluoride were stable for five days at 30 °C, while specimens stored at 30 °C without the additive were not. Sodium fluoride treatment did not affect the assay, as fresh specimens gave the same results with or without the additive. The sodium fluoride concentration can be increased to 10 g/liter with no effect on the results.

In summary, serum specimens for insulin analysis can be sent through the mail unfrozen if sodium fluoride, 5 g/liter, is added.

References


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Mild Forearm Exercise during Venipuncture, and its Effect on Potassium Determinations

To the Editor:

Often, in the process of venipuncture, the blood donor is encouraged to open and close the fist to help make more visible the forearm vein to be used for blood collection. However, it has been reported that such mild forearm