of specimens was 0.15 ± 0.3 mg/L for the whole range and 0.03 ± 0.1 mg/L for the low range (<1 mg/L).

We conclude that citrated and heparinized plasma are equivalent specimens for D-Dimer testing with Tina-quant. For harmonization of D-Dimer concentrations between citrate and heparin plasma, a conversion factor of 0.84 for heparin plasma is recommended. The use of heparinized plasma allows measurements of chemical constituents as well as D-Dimer from blood in a single collection tube.

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References

Gel Diffusion Procedure for the Detection of Cryoglobulins in Serum, Toshio Okazaki,1,2* Tatsuo Nagai,2 and Takashi Kanno3 (1 Department of Biochemistry, Mitsubishi Kagaku Bio-Clinical Laboratories, Inc., Shimura 3-30-1, Itabashi-ku 174, Japan; 2 Department of Forensic Science, School of Allied Health Science, Kitasato University, 1-15-1 Kitasato, Sagamihara City 228, Japan; 3 Department of Laboratory Medicine, School of Medicine, Hamamatsu University, Handa-cho 3600, Hamamatsu 431-31, Japan; *author for correspondence: fax 81-03-5994-2925)

Cryoglobulin is a thermoprotein precipitated at low temperatures in serum (1). It consists mainly of immunoglobulins, which form various complexes. They are classified into three types (I, II, and III) according to their composition (2). In recent years, there have been reports on the relationship between type II cryoglobulinemia and hepatitis C (2–4), which is being widely studied. The common method of detection of cryoglobulins is as follows. After blood is collected at 37 °C and serum separated, 5 mL of the serum is allowed to stand in a cryocrit tube at 4 °C for 2–7 days, and formation of the precipitate is confirmed visually. When a
precipitate is cryoglobulin. However, extremely small amounts of precipitate are obtained by this procedure. If the precipitate redissolves after heating, the precipitate was cryoglobulin. The detection limit of our method was estimated by dilution with purified cryoglobulin; the precipitate was seen at concentrations of ~50 mg/L and above. Identification of the components of the cryoglobulin was possible, using the agarose plate with the precipitate ring immersed in physiological saline at 4 °C for 48 h. Twenty microliters each of anti-H chain gamma, alpha, and mu, and anti-light chain kappa and lambda antisera were placed in the wells for antisera located around the sample well; the plates were allowed to react for 12 h at 37 °C, and the identification of the components was confirmed if there was a precipitin line (Fig. 1b-d). This cryoglobulin detection and identification can be performed on one plate, and it is also effective for analysis of the physio-

References

The Relation between the Ultrafiltrable Calcium Fraction and Blood pH and Concentrations of Total Plasma Calcium, Albumin, and Globulin, Malcolm Cochran, Brad Rumblelow, and Glenn Allen (Department of Clinical Biochemistry, Flinders Medical Center, South Australia 5050, Australia; * author for correspondence: fax 61-8-8374-0848, e-mail malcolm.cochrans@flinders.edu.au)

With the advent of various micropartition systems, typically as developed by Amicon, it became simple to ultrafilter serum and to obtain an apparent measure of the ultrafiltrable calcium fraction (UFCa). In studies of this type, evidence of strict monitoring of serum pH, known to affect calcium binding, was not generally reported (1–4). An earlier study (5), attempted to control temperature and Pco₂, but in our hands the study was difficult to reproduce (unpublished). We have determined the UFCa values of 54 samples of whole blood at 37 °C at or near physiologic pH and sought an empirical relationship with more readily measured biochemical variables, which might enable us to predict UFCa from routine laboratory