Recently, extrarenal amyloid deposition has been recognized in long-term maintenance hemodialysis patients [1]. \( \beta_2 \)-Microglobulin (\( \beta_2 \)M) has been identified as the precursor of dialysis-related amyloid recovered from carpal tunnel or bone cysts [2]. By the way, presence of modified serum \( \beta_2 \)M which has \( \alpha \)-mobility and low pi compared with native \( \beta_2 \)M has been reported in malignant lymphoma [3], small-cell lung cancer [4], AIDS [5], and modified urine \( \beta_2 \)M was found in the urine of patients with cadaveric renal transplant [6]. Nissen and Claësson [7] suggested that the modification of serum \( \beta_2 \)M due to serine protease digestion might reflect early events in allospecific responder cell activation. More recently, Forbes et al. [8] reported that heterogeneity of serum \( \beta_2 \)M between the above-mentioned diseases corresponded to the difference of converting activity, namely protease activity and no modified \( \beta_2 \)M was detected in the freshly drawn serum of these patients. Nevertheless, we have found faint \( \alpha \)-mobility \( \beta_2 \)M in the freshly drawn serum of some patients on long-term maintenance hemodialysis (fig. la). However, after being kept at room temperature for 24 h, much \( \alpha \)-mobility form was observed (fig. lb). Considering the converting activity as reported by Forbes et al. [8], careful examination of the modified form of serum \( \beta_2 \)M should be performed also in chronic hemodialysis patients.

References
1 Anti-human \( \beta_2 \)M rabbit serum was generously supplied by Iatron Laboratory Inc., Tokyo, Japan
2 \( \beta_2 \)M

Fig. 1. Immunoblot analysis of serum from chronic hemodialysis patients. The serum fractionated by nondenaturing polyacrylamide gel electrophoresis was transferred to the nitrocellulose membrane. Immunodetection using anti-human \( \beta_2 \)M antibody was performed. a
Freshly drawn serum of hemodialysis patients 1 = a patient hemo-dialyzed with cuprophan membrane for 3 years; 2 = a patient hemo-dialyzed solely with cuprophan membrane for more than 10 years). b The serum of the same patients kept at room temperature for 24 h. Arrowheads indicate the position of modified β2M.


