

Development of sodium ion sensor based on NASICON ceramic membrane

Kenji Yokoyama and Isao Karube

Research Center for Advanced Science and Technology,
University of Tokyo

We attempted to develop a novel sodium ion selective electrode capable of simple and rapid determination of sodium ion concentration. A sodium sensor was fabricated using NASICON ceramics and was characterized. The correlation between sodium ion concentration and output potential was investigated. The linear correlation was obtained in the range 1 mM to 1 M. The sensor was found to be unaffected by the other kinds of ions. This sensor was applied to the measurement of sodium ion in serum and whole blood and we suggested that NASICON-based sodium sensors could be applied to clinical analysis..