

Development of Calcium Ion Sensor using NASICON Ceramic Membrane

Isao Karube, Kenji Yokoyama and Satoshi Sasaki
Research Center for Advanced Science and Technology,
University of Tokyo

Summary

We attempted to develop a novel calcium ion selective electrode capable of simple and rapid determination of calcium ion concentration.

A calcium sensor using NASICON Ceramic Membrane was fabricated and characterized. The correlation between calcium ion concentration and output potential was investigated. The linear correlation was obtained in the range of $1\mu\text{M}$ to 1M . The sensor was found to be unaffected by the other kinds of ions. The effect of the thickness of the calcium selective membrane on the calibration curve was also investigated. Electrodes with thinner membrane showed more linear correlation between calcium ion concentration and output potential.