Separation of Leukemic Cells by Lectin

-Utility of Technique by Column and Magnetic Bead-

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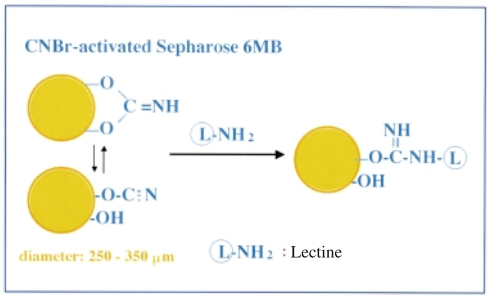
For the development of the system for a new leukemia cell separation, we are attempting to make two kinds of separation materials, which can identify a leukemia cell and a normal lymphocyte.

We clarified that the column, which covalently united the jequirity seed lectin with the CNBr-activatred-Sepharose 6MB, was able to separate a leukemia cell and a normal lymphocyte.

We also made clear that the magnetic beads, which were covalently united the plant seed lectin, were clearly able to separate a leukemia cell and a normal lymphocyte.

Aiming at the practical use of these separation materials, we plan to accumulate the data using the lymphocyte, which separates from those who contract disease leukemia, in addition to another cultured cells derived from leukemia in the future.



Preparation of Lectin Affinity Column

Information and Communication Technology

Improvement of Channel Mobility for 4H-SiC MOSFET using Hydrogen Annealing

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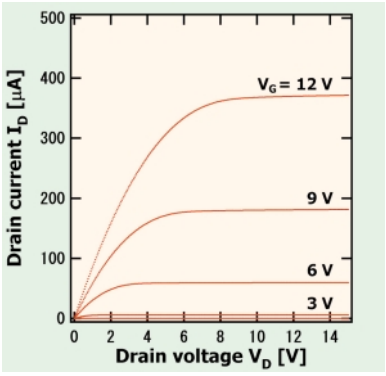
Significant improvement of inversion channel mobility for 4H-SiC metal-oxide-semiconductor field-effect transistor (MOSFET) on (11 $\bar{2}$0) face using high temperature hydrogen post oxidation annealing (H_2 POA) has been achieved. The channel mobility of 110 cm^2/Vs for the MOSFET with the H_2 POA is much higher than that without the H_2 POA. This result is attributed to reducing interface trap density at SiO_2/4H-SiC interface. To our knowledge, this value is the highest for lateral n-channel 4H-SiC MOSFETs with a thermal gate oxide reported until now.



Typical I_D-V_D characteristics of 4H-SiC MOSFET, with gate oxide prepared by wet oxidation followed by H_2 POA, fabricated on the (1120) face.