

As a result, the candidate clones of the 4H5 humanized antibody reduced the cell migration ability by 30% to 50% compared to the control IgG, and the candidate clones of the 9E6 humanized antibody reduced the cell migration ability by 30% to 40%. In conclusion, it was confirmed that all of the candidates for the 4H5 and 9E6 humanized antibodies had efficacy similar to or higher than cCMAb45 and cCMAb96 (Fig. 15).

#### **Example 2-5: Selection of Humanized Antibodies and Re-evaluation of Affinity and Efficacy**

Antibodies were selected by evaluating the candidates clones of the 4H5 and 9E6 humanized antibodies based on three criteria: affinity, efficacy, and yield. SA2759, SA2761, SA2762 and SA2765 were selected for the 4H5 humanized antibody, and SA2768, SA2769, and SA2770 were selected for the 9E6 humanized antibody.

In order to re-evaluate the affinity and efficacy of the antibodies selected based on the above criteria, indirect ELISA was used for the evaluation of affinity, and migration assay was used for the evaluation of efficacy. The experimental method is the same as described in Examples 2-3 and 2-4.

As a result, as for the affinity, it was confirmed that the  $K_D$  values were measured to be similar or lower than those of cCMAb45 and cCMAb96, similar to the first measurement, and the cell migration ability was also reduced by 30% to 50%. Specifically, it was confirmed that the selected 4H5 humanized antibody had an affinity of several pM and reduced cell migration ability by 40%, and the 9E6 humanized antibody had an affinity of several tens of pM and reduced cell migration ability by 50% (Figs. 16 and 17).

Finally, SA2765 was named hCMAb45, and SA2770 was named hCMAb96.

#### **Example 2-6: Analysis of Specificity of hCMAb45 and hCMAb96**

Indirect ELISA was performed to determine whether hCMAb45 and hCMAb96 specifically bind to CTHRC1. An immuno-plate was coated with CTHRC1-His and a number of non-specific antigens. On the next day, hCMAb45 and hCMAb96 were