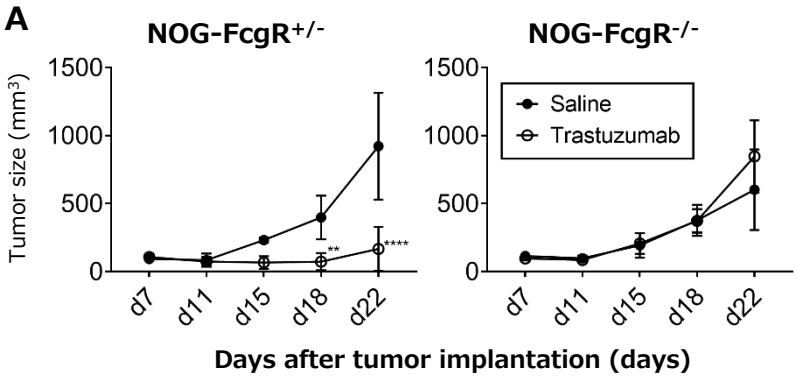
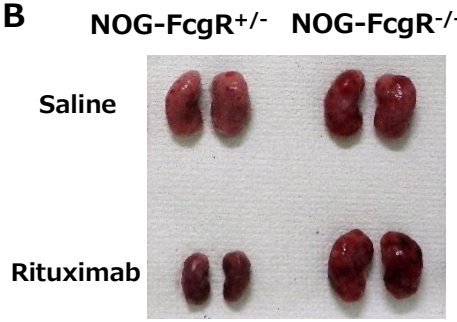
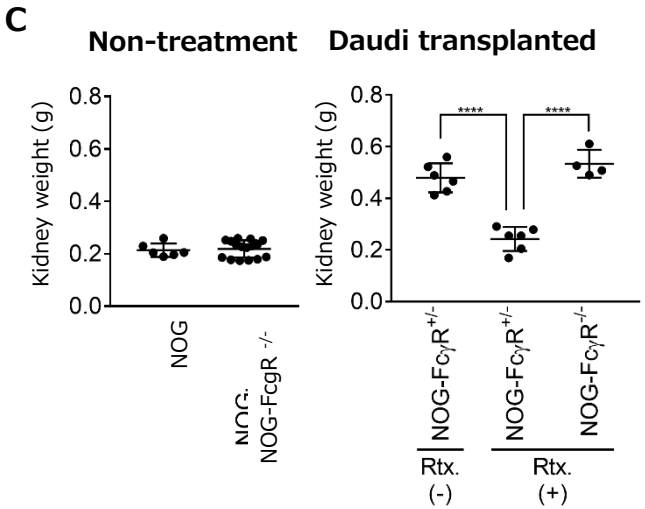
FcResolv NOG mouse :
Disappearance of ADCC by mouse phagocytic cells :
Human Stomach cancer cell line 4-1ST (Solid tumor)







NOG-FcgR$^{-/-}$ = FcResolv NOG

Katano et. al., Frontiers in Immunology, Oct. 2020., the content has been revised and posted separately.

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- By using FcResolv NOG mouse, we constructed a system to detect human NK cell specific ADCC activity.
- Transplantation of 4-1ST, a Stomach cancer derived HER2-positive cell line, into NOG-FcgR$^{+/-}$ mouse (phenotypically identical to NOG mouse) followed by treatment with trastuzumab strongly suppressed tumor growth (Fig. A).
- There was no growth inhibition of 4-1ST cell line in NOG-FcgR$^{-/-}$(FcResolv NOG) mouse (Fig. A).
- When the CD20 positive Daudi Burkitt lymphoma cell line was transplanted intravenously into NOG-FcgR$^{+/-}$ mouse, treatment with rituximab alone strongly suppressed kidney swelling colonized by preferential accumulation of Daudi (Fig. B, C).
- In contrast, the degree of Daudi growth inhibition by rituximab treatment in NOG-FcgR$^{-/-}$ (FcResolv NOG) mouse was reduced to approximately 30-40% of the level in NOG-FcgR$^{+/-}$ mouse (Fig. C).
- This was also confirmed by immunohistochemistry using an anti CD20 antibody (data was not shown).
- These results suggest that mouse innate immune cells, including macrophages and neutrophils, actively kill human tumor cells by an antibody-dependent mechanism mediated by mouse FcgR molecules, and that NOG-FcgR-/- (FcResolv NOG) mouse suggesting that it is useful in eliminating these endogenous effects.

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