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Recombinant humanized anti-CD40 monoclonal antibody triggers autologous antibody-dependent cell-mediated cytotoxicity against multiple myeloma cells.

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Multiple myeloma (MM) is currently incurable, and novel therapies are needed. In this study, we examined a novel recombinant humanized monoclonal antibody against CD40 (rhuCD40 mAb) and demonstrate for the first time that rhuCD40 mAb induces antibody-dependent cell-mediated cytotoxicity (ADCC) against CD40-positive MM cells. Importantly, we show that rhuCD40 mAb induces autologous ADCC against primary patient MM cells, without triggering ADCC against normal B cells. This study, therefore, both demonstrates that rhuCD40 mAb triggers autologous ADCC against patient MM cells and provides the framework for the clinical evaluation of rhuCD40 mAb immunotherapy to improve patient outcome in MM.