New Insights into Targeting the CD200R1 Pathway in T and NK Cells Using 23ME-00610 as a Single Agent or in Combination

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BACKGROUND

CD200R1

CD200R1 is broadly expressed on tumor-infiltrating immune cells and inhibits the adaptive and innate immune systems. CD200R1 is expressed on both normal and cancer cells. Disruption of the CD200-CD200R1 axis in preclinical models increases the severity of autoimmune disease and inhibits tumor growth, consistent with our human genetic data.1,2

CD200R1 is an independent immunosuppressive pathway from PD-1, with potential for 23ME-00610 to combine with anti-PD-1 and anti-VEGF.

RESULTS

CD200 has a Differentiated Expression Pattern from PD-L1

CD200 and PD-L1 are differentially expressed in tumor cell lineages and patient samples. CD200 is broadly expressed on tumor-infiltrating immune cells, whereas expression of PD-1 is predominantly restricted to T cells.

CD200R1 was determined to be an independent immunosuppressive pathway from PD-1, with potential for combination with anti-PD-1 and anti-VEGF.

CONCLUSIONS

CD200R1 is a robust immune checkpoint and differentiated from PD-L1 based on the pattern of expression on tumor-infiltrating immune cells from patient tumors and the pattern of activation on patient PBMCs.

CD200R1 is an independent immunosuppressive pathway from PD-1, with potential for synergy in patients with cancer based on preclinical combination data with human T cells.

CD200R1 is expressed on both tumor cells and endothelial cells, and blockade of the CD200R1 pathway synergized with anti-VEGF to inhibit tumor growth in a preclinical mouse model.

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REFERENCES