Study: Anti-PD-L1 antibody enhances curative effect of cryoablation

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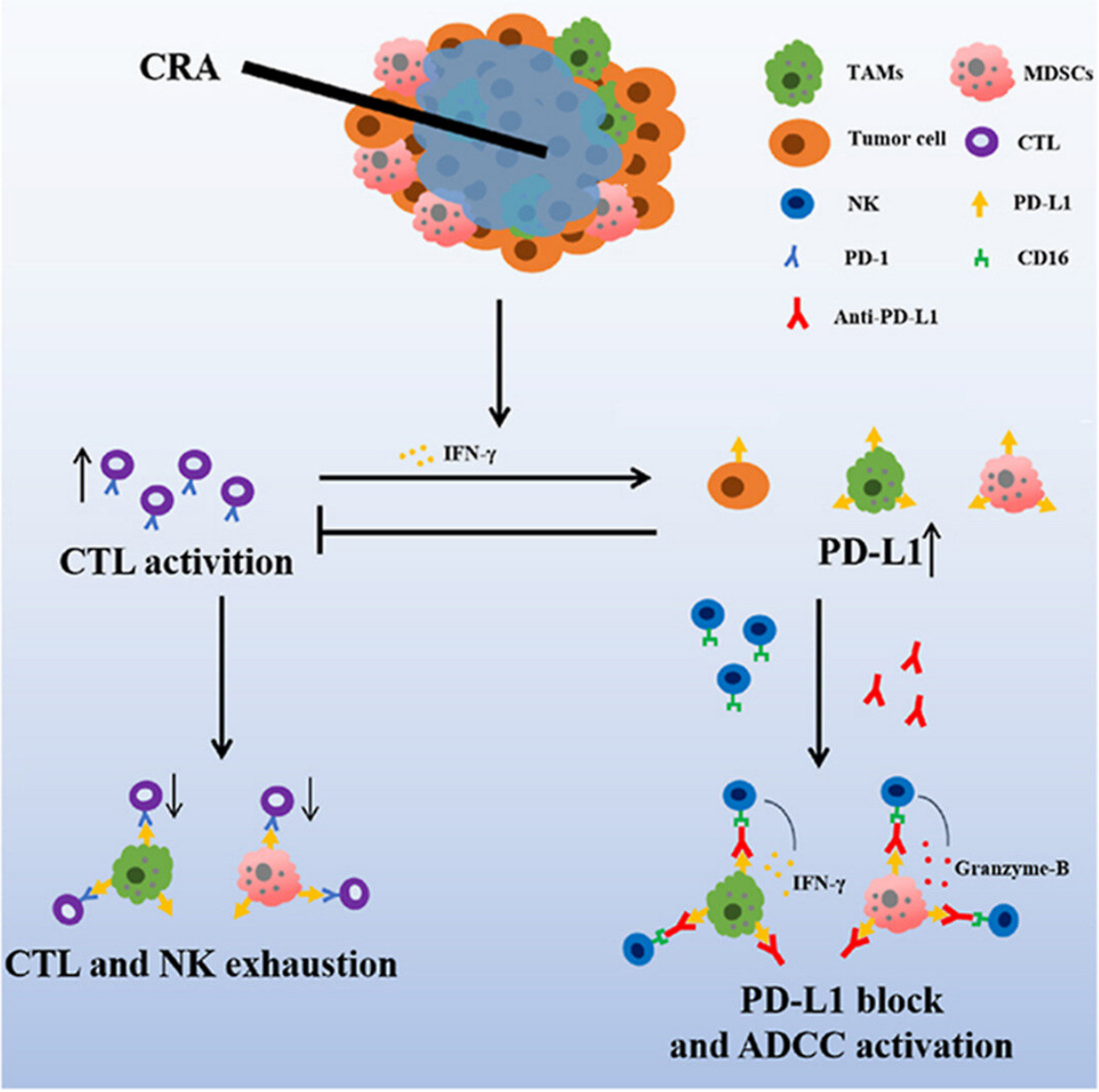

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A new article published in *Acta Pharmaceutica Sinica B* discusses how the Anti-PD-L1 antibody enhances the curative effect of cryoablation via antibody-dependent cell-mediated cytotoxicity mediating PD-L1highCD11b+ cells elimination in hepatocellular carcinoma.

Cryoablation (CRA) and microwave ablation (MWA) are two main local treatments for hepatocellular carcinoma (HCC). However, which one is more curative and suitable for combining with immunotherapy is still controversial. CRA induced higher tumoral PD-L1 expression and more T cells infiltration, but less PD-L1^{high}CD11b^{+} myeloid cells infiltration than MWA in HCC.

Furthermore, CRA had better curative effect than MWA for anti-PD-L1 combination therapy in mouse models. Mechanistically, anti-PD-L1 antibody facilitated infiltration of CD8+ T cells by enhancing the secretion of CXCL9 from cDC1 cells after CRA therapy.

On the other hand, anti-PD-L1 antibody promoted the infiltration of NK cells to eliminate PD-L1^{high}CD11b^{+} myeloid cells by antibody-dependent cell-mediated cytotoxicity (ADCC) effect after CRA therapy. Both aspects relieved the immunosuppressive microenvironment after CRA therapy. Notably, the wild-type PD-L1 Avelumab (Bavencio), compared to the mutant PD-L1 atezolizumab (Tecentriq), was better at inducing the ADCC effect to target PD-L1^{high}CD11b^{+} myeloid cells.

Collectively, this study uncovers the novel insights that CRA showed superior curative effect to MWA in combining with anti-PD-L1 antibody by strengthening CTL/NK cell immune responses, which

provided a strong rationale for combining CRA and PD-L1 blockade in the clinical treatment for HCC.

More information: Jizhou Tan et al, Anti-PD-L1 antibody enhances curative effect of cryoablation via antibody-dependent cell-mediated cytotoxicity mediating PD-L1highCD11b+ cells elimination in hepatocellular carcinoma, *Acta Pharmaceutica Sinica B* (2022). DOI: 10.1016/j.apsb.2022.08.006

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