**ABSTRACT #1752**

**TRANSPORT EXPOSURE TO TRILACICLIB, A CDK4/6 INHIBITOR, MODULATES GENE EXPRESSION IN TUMOR IMMUNE INFILTRATES AND PROMOTES A PRO-INFLAMMATORY TUMOR MICROENVIRONMENT**

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**BACKGROUND**

While cancer chemotherapy-induced immunosuppression (ICI) has been shown to degrade systemic immunity, recent evidence indicates that a subset of ICI combinations may augment tumor immunity. The current study was designed to evaluate the effects of trilaciclib (TRIL), a CDK4/6 inhibitor, on the systemic and local immune response in preclinical models.

**OBJECTIVES**

- Evaluate the effects of trilaciclib in preclinical models using a variety of immune cell populations
- Assess the effects of trilaciclib in the murine tumor microenvironment
- Characterize the effects of transient exposure of trilaciclib on the tumor microenvironment, by examining the cellular composition, proliferation status, and gene expression of tumor immune infiltrate populations.

**METHODS**

- A randomized, placebo-controlled, double-blind Phase 2 trial to assess the safety and efficacy of trilaciclib or placebo as a single agent in patients with selected malignancies.
- Twenty-eight differentially expressed genes were identified, defined using a p-value < 0.05 and absolute fold-change ≥ 2.0.
- The proportion of immune checkpoint receptor (PD-L1) in the tumor microenvironment was significantly increased in TOP vs. OP.

**RESULTS**

- The chemotherapy and ICI combination tested are indicated in the legend of each graph. Data represent the median tumor volume.
- The proportion of immune checkpoint receptor (PD-L1) in the tumor microenvironment was significantly increased in TOP vs. OP.

**SUMMARY**

- Addition of trilaciclib to chemotherapy (oxaliplatin or 5-FU) and checkpoint inhibitor (PD-L1) combination enhances the anti-tumor activity in MC38 and CT26 syngeneic tumor-bearing mice.
- The chemotherapy and ICI combination tested are indicated in the legend of each graph. Data represent the median tumor volume.
- The proportion of immune checkpoint receptor (PD-L1) in the tumor microenvironment was significantly increased in TOP vs. OP.

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