AKT Inhibition During Ex Vivo TIL Expansion Enhances Cytokine Production and Function While Increasing the Population of Less Differentiated (CD39+CD69+) CD8+ T-Cells

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Results

• Pharmacologic inhibition of protein kinase B (AKT) in
  • Strategies to expand TIL with less differentiated
  • Adoptive cell therapy using autologous tumor-
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Methods

• Patient tumors (N=8) from different indications
  • All authors are employees of Iovance and may have stock options
  • Targeted TIL with (apoptotic, particularly when given at both the
  • AKT inhibition increases the frequency of CD69+CD39+ cells, lower TOX expression, and higher cytokine output following
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Conclusions

• AKT inhibitors show increased frequency that is
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Acknowledgments

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  • AKT inhibitors show increased frequency that is
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References

• Tumor microenvironment and benign tumor
  • AKT inhibition increased the frequency of CD69+CD39+ cells, lower TOX expression, and higher cytokine output following
  • AKT inhibitors show increased frequency that is

Contact Information

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Figure 1. AKT inhibitor (ASK) treatment maintained TIL expansion and viability without affecting the T-cell ratio. A. TIL expansion and viability in control and AKT inhibitor-treated TIL. B. CD8+ T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL.

Figure 2. AKT inhibitor (ASK) treatment maintains TIL expansion and viability without affecting the T-cell ratio. A. TIL expansion and viability in control and AKT inhibitor-treated TIL. B. CD8+ T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL.

Figure 3. AKT inhibitor (ASK) treatment increased the frequency of CD8+ Temra cells. A. CD8+ Temra cells in control and AKT inhibitor-treated TIL. B. CD8+ Temra cells in control and AKT inhibitor-treated TIL. C. CD8+ Temra cells in control and AKT inhibitor-treated TIL.

Figure 4. AKT inhibitor (ASK) treatment increased the frequency of IL-7R and CXCR3 expression on CD8+ TIL. A. Frequency of IL-7R and CXCR3 expression on CD8+ TIL in control and AKT inhibitor-treated TIL. B. Frequency of IL-7R and CXCR3 expression on CD8+ TIL in control and AKT inhibitor-treated TIL. C. Frequency of IL-7R and CXCR3 expression on CD8+ TIL in control and AKT inhibitor-treated TIL.

Figure 5. AKT inhibition increases the frequency of CD69+CD39+ CD8+ TIL. A. Frequency of CD69+CD39+ CD8+ TIL in control and AKT inhibitor-treated TIL. B. Frequency of CD69+CD39+ CD8+ TIL in control and AKT inhibitor-treated TIL. C. Frequency of CD69+CD39+ CD8+ TIL in control and AKT inhibitor-treated TIL.

Figure 6. CD69+CD39+ CD8+ TIL are less differentiated. A. Frequency of CD69+CD39+ CD8+ TIL in control and AKT inhibitor-treated TIL. B. Frequency of CD69+CD39+ CD8+ TIL in control and AKT inhibitor-treated TIL. C. Frequency of CD69+CD39+ CD8+ TIL in control and AKT inhibitor-treated TIL.

Figure 7. AKT inhibitor (ASK) treatment maintains TIL expansion and viability without affecting the T-cell ratio. A. TIL expansion and viability in control and AKT inhibitor-treated TIL. B. CD8+ T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL.

Figure 8. AKT inhibitor (ASK) treatment maintains TIL expansion and viability without affecting the T-cell ratio. A. TIL expansion and viability in control and AKT inhibitor-treated TIL. B. CD8+ T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL. T-cell subset distribution in control and AKT inhibitor-treated TIL.