Effect of Troglitazone on Retinoic Acid Metabolism and Cellular Adhesion in Human K562 Cells

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Venusa Phomakay

Retinoids play an active role in many critical cellular processes such as cellular adhesion, proliferation, and immune function. Although much is known about retinoids, there still remains much to be explored such as identifying the particular molecules involved in the cellular processes. Within immune cells, adhesion is impacted by oxidative metabolites of retinol. All-*trans*-retinoic acid (*t*-RA) and 9-*cis*-retinoic acid serve as ligands for retinoic acid receptors and retinoid X receptors that are involved in regulating immune function by impacting cellular adhesion. In the current study, we examined *t*-RA metabolism in presence or absence of troglitazone in the human pro-red blood cell line K562. Liquid-liquid extraction and reverse-phase HPLC with photodiode array detection were used to characterize retinoic acid metabolites. Cellular adhesion assays were performed with K562 cells treated with troglitazone, *t*-RA, or troglitazone and *t*-RA. Our data suggests that troglitazone increases retinoid availability within this cell line and modulates cellular adhesion.