



**SUPPLEMENTARY FIG. S2. Selection of a proper internal control marker.** We measured the endogenous level of hsa-miR-451a from four different patient populations. There is no statistically significant difference in the level of miR-451 in the blood ( $p$ -values  $>0.05$  for each combination of groups) across groups. Since the first step of the PAXgene RNA isolation procedure is to lyse all cells collected during the blood draw and hsa-miR-451a is highly abundant in *red* blood cells, hsa-miR-451a is used as a proxy for RNA input amount. We normalized the raw data for other miRNAs in the chip using miR-451a expression values from the same corresponding samples (endogenous normalization control). NPDR, nonproliferative diabetic retinopathy; PDR, proliferative diabetic retinopathy.