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Abstract

To determine whether inherent fibrinolytic differences may exist in racial groups (black americans, BA vs. white americans, WA), 55 different individual racially-derived human umbilical vein endothelial cell (HUVEC) cultures (35 BA and 20 WA) were analyzed in terms of their fibrinolytic protein (t-PA, u-PA and PAI-1) antigen and mRNA levels. Values (mean  $\pm$  SD) for measured fibrinolytic component levels include: cell-associated t-PA antigen (ELISA),  $1.14 \pm 0.82$  ng/ml/ $8.6 \times 10^5$  cells/24 hr in BA and  $0.70 \pm 0.85$  ng/ml in WA ( $p=0.0624$ ); secreted t-PA antigen,  $18.65 \pm 17.06$  ng/ml in BA and  $10.37 \pm 6.38$  ng/ml in WA ( $p=0.0422$ ); t-PA/cyclophilin mRNA ratios (Northern blot analysis),  $1.90 \pm 1.34$  in BA and  $1.32 \pm 0.70$  in WA ( $p=0.0776$ ); cell-associated PAI-1 antigen,  $71.10 \pm 30.16$  ng/ml/ $8.6 \times 10^5$  cells/24 hr in BA and  $108.85 \pm 56.89$  ng/ml in WA ( $p=0.0022$ ); secreted PAI-1 antigen,  $1,582.13 \pm 612.67$  ng/ml in BA and  $1,992.17 \pm 711.50$  ng/ml in WA ( $p=0.0285$ ); 2.4 kb PAI-1/cyclophilin mRNA ratios,  $0.59 \pm 0.39$  in BA and  $0.79 \pm 0.31$  in WA ( $p=0.1085$ ); 3.4 kb PAI-1/cyclophilin mRNA ratios,  $0.70 \pm 0.47$  in BA and  $0.77 \pm 0.54$  in WA ( $p=0.6322$ ). These combined data suggest that cultured HUVECs from BA express significantly higher levels of t-PA, lower levels of PAI-1 and  $\sim 1.72$ -fold lower molar ratio of PAI-1/t-PA antigen ( $183.99 \pm 168.81$  vs.  $315.92 \pm 164.99$ ) ( $p < 0.05$ ) than cultured HUVECs from WA, presumably reflecting an apparent inherent increased fibrinolytic potential in cultured HUVEC derived from BA.