Fig. 7. Quantitation of cells expressing high levels of BAT-gal transgene in adenomas vs. normal tissue. The traces are flow cytometry profiles of intestinal live cell suspensions. This assay is specifically designed to examine high levels of expression. Single-cell suspensions of either phenotypically normal small intestine or adenoma (five, 2-4 mm in diameter) from adenomatous polyposis coli multiple intestinal neoplasia [APC(Min/+)]/BAT-gal mice were dissected in ice-cold PBS/0.1 M EDTA. Single cell suspensions were generated by filtering pools of dissected tissues through 30-μm filter (J. L. Burns and A. B. H., unpublished results). A fluorescent substrate for *lacZ* (33 mM dodecylresorufin β-galactopyronoside, Molecular Probes) was incubated for 1 h with cell suspensions in DMEM medium either alone or with β-galactosidase (β-gal) inhibitor phenyl-ethyl β-thiogalactopyranoside (PETG). Fluorescence activity was then determined using a Beckman Counter flow cytometer on an average of 5,000 cells. Red traces indicate the background of the β-gal substrate in the presence of PETG inhibitor. Black traces indicate β-gal substrate alone; 5.4% of the adenoma cells incorporate a high amount of substrate.