Title: Adult B-cell acute lymphoblastic leukemia cells display decreased PTEN activity and constitutive hyperactivation of PI3K/Akt pathway despite high PTEN protein levels

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Specific contributions of each author are listed on page 2 of this document.

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A. Margarida Gomes performed most of the experiments, analyzed data, and drafted the manuscript;
Maria V. D. Soares performed experiments and analyzed data;
Vanda Póvoa performed experiments and analyzed data;
Leila R. Martins performed experiments and analyzed data;
Alice Melão performed experiments and analyzed data;
Ana Serra-Caetano performed experiments and analyzed data;
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Aida B. de Sousa recruited patients;
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Joana Caldas performed patient immunophenotypical characterization and classification;
João F. Lacerda recruited patients and contributed to the coordination of the study;
João T. Barata coordinated the study, designed the research and wrote the manuscript.

All authors were involved in the discussion of the study; and revised, critically read and approved the manuscript.