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Immunoglobulin is expressed in acute myeloid leukemia and affects myeloblasts survival

We studied immunoglobulin gamma heavy chain (IgG) expression in acute myeloid leukemia (AML) and found that IgG was expressed at a high frequency and level in AML cell lines and primary myeloblasts but not in monocytes or neutrophils from patients with non-hematopoietic neoplasms or healthy controls. We further detected IgG VHDJH transcripts in AML cell lines and sorted primary myeloblasts, confirming that IgG expression was indeed produced by AML cells. AML-IgG gene rearrangements showed evidence of somatic hyper mutation and restricted (AML cell lines) or biased (primary myeloblasts) V usage. Anti-human IgG reduced cell viability and induced apoptosis in AML cell lines. Our findings suggest that AML-IgG may play a role in leukemogenesis and AML progression. AML-IgG may serve as a useful molecular marker for monitoring minimal residual disease or designing target therapy.

Biography

C Cameron Yin has received her MD from Beijing Medical University and her PhD from the University of Wisconsin-Madison. She is currently an Associate Professor in the Department of Hematopathology at the University of Texas MD Anderson Cancer Center. In addition to clinical responsibilities on the Leukemia, Lymphoma and Molecular Diagnostic services, she has been actively participating in multiple research projects in the molecular genetic abnormalities in leukemia and lymphoma which has led to over 100 research papers and over 20 book chapters.

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