

## The immune landscape of acute myelogenous leukemia – Implications for immunotherapy

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### Abstract

The recognition of the curative potential of the graft-versus-leukemia effect for patients with Acute Myeloid Leukemia (AML) undergoing stem cell transplantation, and the emergence of immunotherapy as a powerful weapon to treat cancer, has spurred the exploration of the immune landscape of AML to apply immunotherapeutic approaches to curing the disease. While current concepts of cancer immunology and immunotherapy have relevance, there are also unique aspects of immune dysregulation in AML to be considered when designing rational immunotherapy for this leukemia. This is timely because rapid advances in cancer immune-biology, together with technological developments have opened up the field of immunotherapy for malignant disease. This talk summarizes current knowledge of AML immune-biology together with a description of new immunotherapies to counter immunosuppression and immune evasion by AML. Recent advances in treatment with recombinant antibodies, adoptive cell therapy and vaccines and their future promise in AML treatment are discussed.

### Biography:

Dr. John Barrett received his M.B. and B.S. degrees from the Medical College of St. Bartholomew's Hospital, London in 1968, and his M.D. degree from University of London in 1975. From 1982 to 1988 he was Professor of Hematology and Head of the Department of Hematology at Charing Cross and Westminster Medical School, London, and from 1988 to 1993 he was Professor of Hematological Medicine at the Hammersmith Hospital, London. Dr. Barrett joined the NHLBI in 1993, as the chief of the Bone Marrow Stem Cell Allotransplantation Section of the Hematology Branch. He has received numerous honors for his contributions to hematology and stem cell transplantation including awards from the National Institutes of Health, the National Health Service UK and the 2016 award from the American College of Physicians for science as it relates to medicine. Dr. Barrett was elected a Fellow of the Royal College of Physicians in 1998. He has authored over 350 original scientific articles, and nearly 150 reviews, editorials, and book chapters. He serves on numerous journal editorial boards and is the Editor in Chief for Cytotherapy. Dr. Barrett is a member of the British Society for Haematology, American Society of Hematology, American Society for Blood and Bone Marrow Transplantation (for which he served as President in 2010), and International Society for Cell Therapy, among other organizations.



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