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(54) Title: COMBINATION OF EPIGENETIC FACTORS AND BISPECIFIC COMPOUNDS TARGETING CD33 AND CD3 IN THE TREATMENT OF MYELOID LEUKEMIA

(57) Abstract: The present invention provides a combination epigenetic factors and bispecific compounds targeting CD33 and CD3 in the treatment of myeloid leukemia, wherein the epigenetic factor is selected from the group consisting of histone deacetylase (HDAC) inhibitors, DNA methyltransferase (DNMT) I inhibitors,hydroxyurea, Granulocyte-Colony Stimulating Factor (G-CSF), histone demethylase inhibitors and ATRA (All Trans-retinoic acid). Accordingly, the invention provides a pharmaceutical composition comprising a CD33 targeting compound and at least one epigenetic factor and an epigenetic factor for use in the amelioration and/or treatment of a myeloid leukemia, wherein the epigenetic factor increases the responsiveness of a patient to a CD33 targeting compound. Moreover, the invention provides the use of at least one an epigenetic factor for increasing the responsiveness of a myeloid leukemia patient to a treatment with a CD33 targeting compound, a method for the treatment of a myeloid leukemia, the method comprising the administration of at least one epigenetic factor and a CD33 targeting compound to a patient in the need thereof and a kit comprising a pharmaceutical composition of the invention or an epigenetic factor of the invention and a bispecific CD33 targeting compound.