Highly promising AML treatment option targeting leukemic blasts and stem cells

Reference No: B78209

CHALLENGE

Acute myeloid leukemia (AML) is one of the cancers with the worst prognoses; currently only 25% of all patients survive the first 5 years after diagnosis. Although classified as orphan disease, AML causes disproportionately many cancer deaths. Current AML treatment is mostly based on highly aggressive chemotherapy with strong and often fatal side effects, in some cases combined with other, equally aggressive methods like stem cell transplants and genetic subtype-specific targeted therapies.

In most cases, leukemia will relapse after an initial phase of improvement due to proliferation of surviving leukemia stem cells. Thus, only few patients can be permanently cured of AML. A new treatment option that efficiently, specifically and lastingly eliminates both leukemic blasts and leukemic stem cells is essential to improve prognosis for this severe form of cancer.

INNOVATION

The innovative therapy quickly and specifically activates programmed cell death in both leukemic blasts and leukemic stem cells and thereby strongly reduces the possibility of a leukemia relapse. Healthy cells are not eliminated; in contrast, blood cell counts improve, driven by the promotion of healthy stem and progenitor cells. The therapy promises to be highly advantageous when compared to existing treatment schemes:

• Fast and specific elimination of leukemia cells (blasts and stem cells)
• Highly improved survival and fitness in mouse model
• Large percentage of animals are actually cured in mouse model
• Applicable for all AML patients
• Low side effects compared to conventional therapies

COMMERCIAL OPPORTUNITIES

AML therapy, alone or in combination with existing drugs (multiplication effect)

DEVELOPMENT STATUS

Proof of concept in vivo (mouse) and ex vivo (leukemia patient bone marrow cultures)