Effect of standardized *Eleutherococcus senticosus* root extract on leukemia development and chemotherapy efficacy in CB-17 SCID mouse model

Treating leukemia, especially acute myeloid leukemia (AML), remains challenging due to drug resistance, severe side effects, and high mortality. At the same time, more patients turn to herbal supplements, including immune-boosting products like Siberian ginseng. However, the true impact of such supplements on the safety and effectiveness of chemotherapy is still poorly understood.

This project aims to determine whether a standardized root extract from *Eleutherococcus senticosus* can support leukemia treatment and reduce the side effects of chemotherapy without interfering with its efficacy. The study will be conducted using SCID mice injected with human leukemia cells. The animals will receive the plant extract, a chemotherapy drug (gilteritinib), or both. Researchers will monitor tumor growth, survival, blood parameters, and enzyme activity linked to inflammation and metastasis.

The project is innovative, as it will, for the first time, comprehensively evaluate the effects of this plant in a live model of blood cancer—not just in lab cell cultures. The extract has been specially formulated and standardized (based on a patented method), ensuring consistency and safety.

The outcomes of this research could enhance our understanding of interactions between cancer drugs and herbal supplements. The findings may also help develop new, safe strategies to support leukemia therapy and improve the quality of life for cancer patients.