CCLG: The Children & Young People's Cancer Association research:

Targeting a protein to treat acute myeloid leukaemia in children

Project title: A multimodal approach to investigating and targeting CD180 in paediatric AML

Project stage: Just started (February 2026)

Funded by: Funded by Blood Cancer UK, CCLG, and CCLG Special Named Funds including Super Sofia, #teamkai, Lois' Fund, Hunter's Heroes, A Goal for Sam, Marcus Mission, Thumbs up for Joel, Josh's Gold Star, Toti Worboys Fund, Harley James Reynolds Fund

Led by: Dr Karen Keeshan, University of Glasgow

About the project

Childhood acute myeloid leukaemia (AML) is a rare and aggressive type of blood cancer, with around 100 children and young adults diagnosed each year in the UK. The disease can be very difficult to treat, and many children don't respond well to current treatments. If treatments do work, they can cause horrible long-term side effects. Researchers have discovered a protein that is found on the surface of leukaemia cells in children with the disease. This protein is more common in children whose AML is aggressive and those who have undergone chemotherapy that hasn't worked. As this protein is not present on the surface of healthy blood stem cells (the cells that make blood cells), it could be an important target for new treatments with less harmful side effects.

In this project, Dr Keeshan and her team at the University of Glasgow want to explore whether removing or blocking this protein can help make it easier to treat AML in children. They plan to try three different ways to remove or block this protein by conducting experiments in the lab. First, they will use a special technique to remove the protein from the leukaemia cells and test whether this improves how well chemotherapy works. Secondly, they will try to break down the protein to see what happens, helping them to understand how a future drug might work. Finally, they will test special antibodies (molecules that circulate in our blood) that will act like delivery vehicles, finding leukaemia cells with this protein on the surface and carrying a drug directly to them to kill the cancer cells.

If successful, this research could lead to the development of new, safer and more effective treatments for children with AML, especially for those children whose cancer doesn't respond well to current treatments. The team hope this could provide a less harmful way to treat AML in children in the future, either on its own or in combination with other drug treatments. Researchers also hope that the knowledge gained from this project could help to develop treatments that can be tested in clinical trials in the future.

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