PROTOCOL 001.16-BMSCTI

Phase 1/2 Clinical Study Evaluating the Safety and Efficacy of Fresh Frozen Plasma (GMFFP) from young healthy donors ages 18 to 35, who have received Granulocyte-Colony Stimulating Factor (G-CSF) to Ameliorate Frailty and Enhance the Immune Risk Profile in Older Individuals

Self-Funded Clinical Trial FAQs for Participants

1. **Is the Study FDA and IRB approved?**

- Yes

2. **Who can participate - What is the qualification process?**

- The participant must be between 55 and 95.
- They must also have a clinical frailty score of 4-7, or have an abnormal immune risk profile.
- There are numerous other criteria that will be assessed during the initial screening.

3. **What is the clinical trial?**

- This trial is attempting to investigate if the Fresh Frozen Plasma (GMFFP) of donors pre-treated with Granulocyte-Colony Stimulating Factor (G-CSF) is a viable option for correcting the immune dysfunction seen with frailty and unhealthy aging.

4. **How does GMFFP affect frailty?**

- Given that frailty and the progression of age-associated illnesses are largely attributable to immune dysregulation, enhancing proper immune function through exposure to transfusions of GMFFP from young, healthy donors may provide a viable option for the promotion of healthy aging.

5. **What Is The Scientific Basis Of The Clinical Trial?**

- There have been recent reports in medical literature about the discovery that young mice's blood plasma when infused into aged mice caused regeneration of organs such as liver, and brain. There are certain factors present in the young blood which have been shown to improve the function of the organs.
- Each year approximately 20,000 healthy individuals receive a protein called Granulocyte Colony Stimulating Factor (G-CSF) in order to stimulate and

release stem cells from the bone marrow into the peripheral blood and these stem cells are collected and re-infused into patients who have blood cancers and other immune disorders. There are recent reports in the medical literature that mobilized stem cells secrete certain factors into the plasma of the blood and that these factors may be important for the regenerative capabilities of stem cells.

6. **What is the purpose of the Clinical Trial?**

- This study has a primary objective of determining and demonstrating the safety and tolerability of G-CSF mobilized fresh frozen plasma (GMFFP) in older, frail individuals and a secondary objective of determining and demonstrating the efficacy of the treatment of these individuals with GMFFP.
- The trial will use G-CSF mobilized fresh frozen plasma (GMFFP) from healthy young donors to ameliorate frailty and enhance the immune risk profile in older individuals.

7. **Who will be my donor?**

- We will match you to a donor from our data base. You may have more than one donor over the course of the infusions. You can also bring your own donor.

8. **What screening do you do on donors?**

- The donor must meet several strict criteria, complete the full-length universal donor history questionnaire and undergo a variety of blood tests.

9. **What medication will you be giving me exactly?**

- Granulocyte Colony Stimulating Factor (G-CSF) Mobilized Fresh Frozen Plasma (GMFFP).

10. What are the possible side-effects?

- *Febrile non-hemolytic transfusion reactions* – elevated body temperature of 2 degrees F during or shortly after a transfusion without evidence of destruction of red cells (hemolysis). It may also include chills and/or shortness of breath.
- *Hemolytic transfusion reactions* – the destruction of transfused red blood cells which may be present in very small amounts in the GMFFP.
- *Allergic reactions* – typically occurs as urticaria (hives), pruritus (itching), and/or flushing. In rare cases, it may also include wheezing and severe shortness of breath.

11. Has The Study Started?

- We have started to register patients and recruit donors.

12. Can you start as soon as the screening is complete and you are qualified?

- After the initial screening and acceptance into the trial, you will be matched with 1 or more donors. Once this has been done, the treatments can start.

13. What Markers are being measured?

- Several biomarkers of aging, inflammation and immune function including Telomere length and DNA Methylation.

14. How may the young plasma help me age healthily?

- GMFFP contains many plasma proteins and numerous factors secreted from stem cells. These factors include pro-youthful proteins and RNA, which may help to recover and regenerate aging cells.

15. How long will the study run?

- 24 months. It will consist of 17 visits. Each visit for the first 12 months will require 3 days at the study facility and each subsequent visit during the follow up period will require 1 day at the study facility every 3 months.

16. What happens during the 3 day visit?

- Day 1: Bloodwork.
- Day 2: The intravenous infusion of GMFFP.
- Day 3: Follow up visit.

17. How many people are you looking for?

- 30

18. I have heard about another Young Blood Study being carried out by the Young Blood Institute in San Francisco. How does this differ from your trial?

- Our study is taking a completely different approach to young blood than anyone else. We are using Stem Cell Mobilized Fresh Frozen Plasma, which contains more than 700 pro-youthful proteins, as well as proteins called cytokines and other factors as well as RNA secreted from stem cells. These factors help to recover and regenerate aging cells.

- The study by the Young Blood Institute is using plasmapheresis to swap out old plasma and replace it with albumin and immunoglobulins, which, as far as we are aware does not come from young donors. We currently have no information that this will have the effects of young blood plasma.

19. Would there be any advantage to being a part of both studies at the same time?

- I do not see any benefit in taking part in both studies. It would not be possible to participate in the GMFFP study if a patient is taking part in another study.

20. Will you be looking for investors?

- The GMFFP study is self-funded.