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DKMS builds stem cell bank for blood cancer patients

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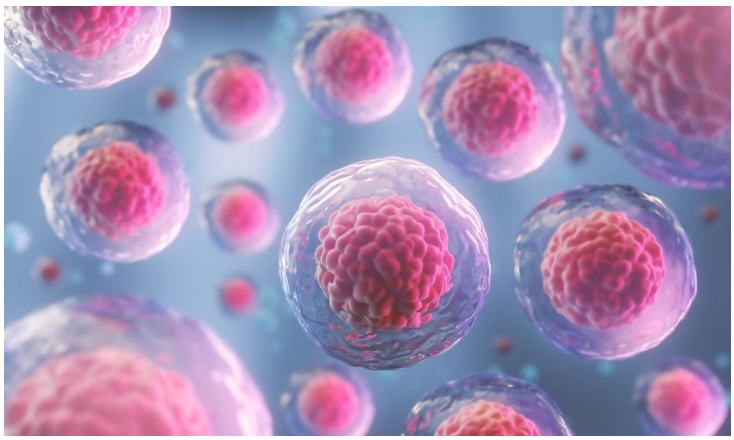
The DKMS Stem Cell Bank makes cryopreserved blood stem cells available for unrelated allogenic stem cell transplantation



How to help blood cancer patients even faster in the future? Especially in times of the worldwide health crisis caused by the coronavirus and other crises in the future? DKMS speeds up its process to freeze surplus blood stem cells from unrelated donors by building a stem cell bank. The innovation: A stem cell donor can save two lives with one donation. . As the world's largest donor center, DKMS thus tackles new and future challenges with the establishment of the DKMS Stem Cell Bank, which is currently underway. Operations are planned to start already in this year in Dresden, Germany. The benefit: In the near future coordinators and transplant centers can rely on blood stem cell donations with the most common genotypes, even in difficult times.

In India every 5 minutes someone is diagnosed with blood cancer or other blood related disorders like Thalassemia and Aplastic Anemia and many patients cannot survive without a life-saving stem cell donation. Only one third of patients find a matching donor in their own family while the majority depends on an unrelated donor, who is a genetic match with the patient. For many patients, the search for a donor is the beginning of a race against time. The faster a suitable donor is found, the better the chances of survival for the patient. "Freezing" or "cryopreservation" of surplus blood stem cells is a further important step when it comes to fast availability.

"With the DKMS Stem Cell Bank, we are investing to be prepared for a potential second wave of the Coronavirus and the challenges associated with blood stem cell collections during a global epidemic or crisis. We are doing everything possible to overcome these obstacles now and in the future. A team of internationally recognized experts is working almost around the clock to accelerate its establishment", says Dr. Elke Neujahr, Global CEO DKMS.

In times, where the Corona crisis presents donor centers and registries such as the non-profit organization DKMS with enormous challenges, the unique advantages of cryopreserved blood stem cells acquire increased importance. "At present some donors are not allowed to or they are afraid to travel to the collection centers to make their life-saving blood stem cell donation. Thus, we plan to start operations at our stem cell bank, which will produce, store, and once requested provide cryopreserved peripheral blood stem cell products from unrelated donors hopefully by the end of this year.", says Dr. Alexander Schmidt, DKMS Chief Medical Officer.

Dr. Alexander Platz, Medical Director of the DKMS Cord Blood Bank and future DKMS Stem Cell Bank, is pursuing the project together with his team with great conviction and commitment: "Our stem cell bank is a very innovative and forward-looking. With our stem cell bank we will be able to help patients all over the world even faster and more effectively". Once a suitable match has been found for a patient, it usually takes several weeks before the donor's stem cells can be harvested and the patient's stem cell transplantation can take place."

Speaking about the importance of such stem cell bank Mr. Patrick Paul, CEO, DKMS BMST Foundation India said, "I am glad about the setup of such highly advanced and state-of-the-art stem cell bank which will help patients across the world in their fight against blood cancer. This fight can only be won if we continue to find new ways to combat this disease. Making cryopreserved peripheral blood stem cells from our donors available across the globe for unrelated stem cell transplantation is a new and efficient approach to help even more patients."

The DKMS Stem Cell Bank is not a private stem cell bank for the storage of cord blood against payment. The DKMS Stem Cell Bank makes cryopreserved blood stem cells available for unrelated allogenic stem cell transplantation. The cells are collected by apheresis in addition to a directed donation of a volunteer donor. In accordance with its mission, the stem cell bank is a non-profit organization and therefore not geared towards profit.

"With this method, we can make the cryopreserved peripheral blood stem cells from our donors available to patients across the globe for unrelated stem cell transplants. Our approach is very special, straightforward and 100% ethically acceptable for our donors. There is no extra effort involved as we are only going to ask donors who are donating anyway for a specific patient. That way our donors might save two lives with one donation", says Platz. "In our experience, many donors mobilize considerably more stem cells than a single patient actually needs," Dr. Alexander Platz adds. The collection of the additional stem cells is therefore always only carried out within the framework of a stem cell collection, which would take place anyway, and always via the blood. In contrast to a bone marrow donation, surgery or anesthesia are not necessary for peripheral stem cell collection.

For the donor, the removal of additional cells, apart from a somewhat longer apheresis period, does not mean any additional effort. A "standard" stem cell donation will be carried out in which the permissible blood volume will be processed. Once the donation takes place, it will be decided whether two products can be obtained – one for the patient waiting for the transplant, the other for storage in the stem cell bank. Before the stem cell bank can go into operation, a cleanroom laboratory needs to be set up "Building works are underway and we are confident, that we will be able to store our first 100 cryopreserved stem cell products by the end of 2020," says Platz. In a first step, DKMS will consider above all donors with particularly frequent HLA characteristic combinations and a subsequent higher probability of donation.