DSD Digital Storage Device

Our revolutionary Digital Storage Device (DSD) as seen in Figure 1, has been developed following 7 years of R&D to find the safest and most effective way for storing Platelet Rich Plasma (PRP) at room temperature.

The DSD is a patented, CE approved electromechanical Medical Device that provides the optimum storage conditions for platelets at room temperature. It has attracted the attention of both Clinicians offering PRP in their prices and Scientists in the areas such as Haematology, Cardiovascular, Drug discovery, Drug delivery, Platelet related diseases , Thrombocytopenia and more.

Figure 1

Figure 2

For Clinicians

The use of the DSD for PRP storage removes the time pressure doctors sometimes encounter when

- Offering PRP treatments in isolation in areas such as skin rejuvenation, alopecia treatments, dentistry and more.
- Using PRP in conjunction with other invasive treatments and surgeries to accelerate post-operative healing and reduce pain.

For scientists

PRP or isolated platelets from the blood donors can be stored inside the DSD at room temperature in their laboratories.

- DSD creates optimal conditions for storage of platelets.
- DSD keeps the platelets functional.
- DSD removes the need for cooling or freezing for up to 7 days.
- DSD can reduce the number of blood donors for drug discovery applications.
- DSD is suitable for storing PRP and isolated platelets from both human & murine sources.

Here is a summary of some of the experiments carried out by different universities and laboratories using our DSD.

High platelet count was maintained when PRP was stored in the DSD for 7 days.

PRP from one single donor was stored in the DSD for 7 days and platelet counts were recorded daily, showing only a slight day to day decrease. Graph shows the standard deviation.

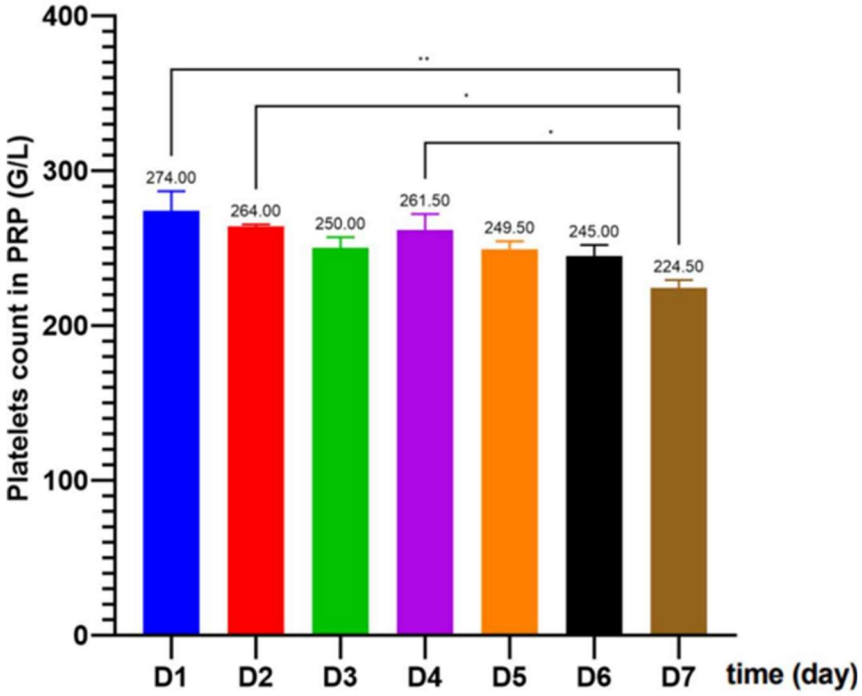

Figure 3

Platelets stored for 7 days in the DSD maintained their cell activity.

Isolated platelets from PRP preparation from 6 single donors were stored for 7 days in the DSD. Mean data measurement of the citrate synthetase activity indicates mitochondrial density which demonstrates platelet functionality.

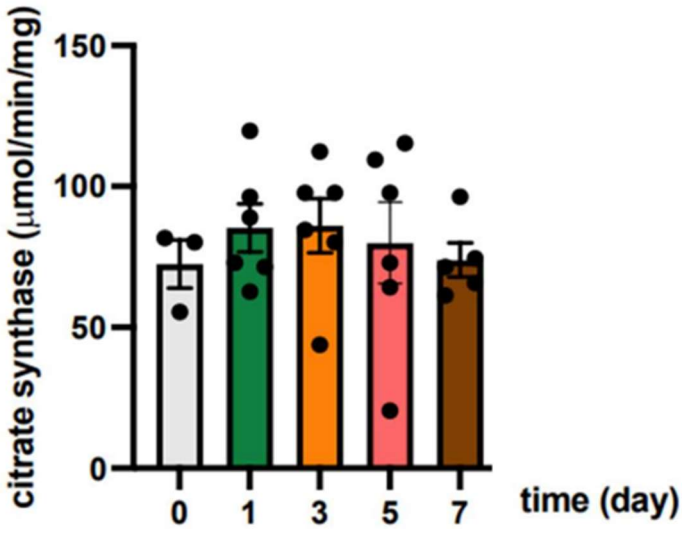

Figure 4

Platelets stored in the DSD remained functional and capable of releasing high levels of growth factors when activated.

PRP from 1 single donor was stored in the DSD for 7 days and was activated daily with CRP-A at 1 µg/ml, an innovative new collagen related peptide and highly potent platelet activator developed by Pplus. PDGF-bb growth factors released were measured daily in both activated and non-activated PRP. Both groups were capable of releasing PDGF-bb but the CRP-A activated platelets released higher concentrations of growth factors.

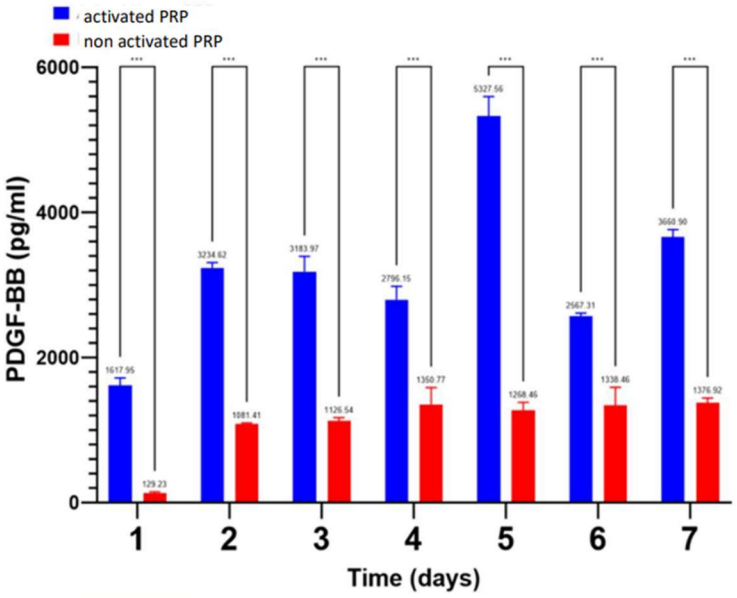

Figure 5

Platelet aggregation ability is preserved when PRP is stored in the DSD for up to 7 days.

Platelet aggregation capability was tested on PRP from six donors stored in the DSD. CRP-A at 5µg/ml, the highly potent platelet activator from Pplus, was used for platelet aggregation. Result showed a rapid response when activated with CRP-A. Excellent levels of platelet aggregation were achieved with platelets stored in the DSD for up to 7 days.

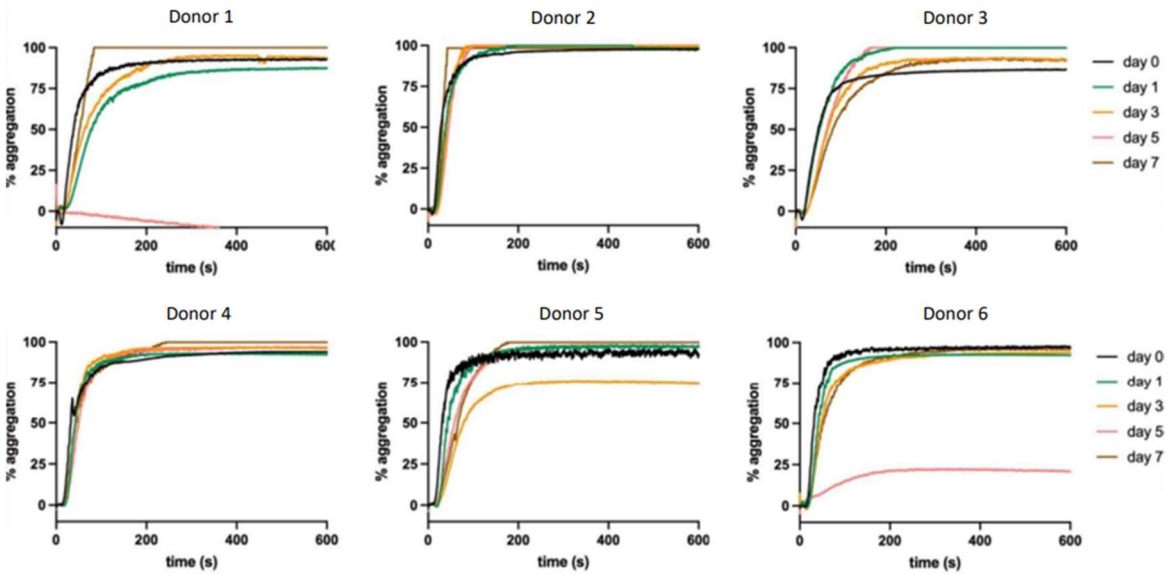

Figure 6