Providing your patients with the safest and highest quality blood products is critical. The Mirasol Pathogen Reduction Technology (PRT) system is designed to optimize the balance between safety and the efficacy of your blood products for transfusion.

Platelets treated with the Mirasol system have been shown to maintain their function and effectiveness; whether they are stored in plasma or in platelet additive solution (PAS).

**Platelet quality maintained after Mirasol PRT treatment**

Mirasol-treated platelets remain viable and functional during a 5-day storage period.

- Platelet function and pH are maintained\(^1\)\(^-\)\(^5\)
- Mitochondria retain their normal structure and function\(^6\)\(^-\)\(^9\)
- Mirasol-treated platelets store equally well in plasma or in PAS*, as demonstrated in several in vitro cell quality studies\(^10\)\(^-\)\(^13\)

**Proven safe and effective in the clinical setting**

The Mirasol Clinical Evaluation (MIRACLE) trial established the safety and effectiveness of Mirasol-treated platelets in a standard clinical setting. This randomized, controlled study compared clinical outcomes in thrombocytopenic patients receiving Mirasol-treated apheresis and Buffy Coat platelets with those from patients receiving untreated reference platelets.

**SAFETY ESTABLISHED**

- No adverse events were attributed to the use of the Mirasol system\(^14\)
- No significant differences were observed in bleeding events graded using a modified WHO scale\(^14\)
- No neoantigens were formed in any of the patients receiving Mirasol-treated platelets\(^15\)

**EFFICACY MAINTAINED**

- Patients receiving Mirasol-treated platelets showed no increase in platelet or red blood cell transfusions needed during the treatment period\(^14\)
- Corrected Count Increments (CCI) remained stable throughout multiple transfusions of Mirasol-treated platelets\(^14\)

<table>
<thead>
<tr>
<th>Platelet and red blood cell usage in patients receiving Mirasol-treated versus untreated platelets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean number of platelet transfusions per patient</td>
</tr>
<tr>
<td>Number of platelet transfusions per day of support</td>
</tr>
<tr>
<td>Mean cumulative platelet dose transfused per patient (x 10(^11))</td>
</tr>
<tr>
<td>Mean number of RBC transfusions per patient</td>
</tr>
</tbody>
</table>

NS = Not statistically significant\(*

PAS must contain phosphate buffer to ensure platelet quality is maintained for up to 5 days; additional work is ongoing to evaluate Mirasol-treated platelets for up to 7 days.
Platelet usage in patients receiving Mirasol-treated and untreated platelets

![Platelet usage chart](chart.png)

Potential transfusion benefits beyond platelet product safety and efficacy

**REDUCED IMMUNOLOGICAL COMPLICATIONS THROUGH WHITE BLOOD CELL INACTIVATION**

- Mirasol treatment effectively inhibits white blood cell activation and proliferation as well as cytokine production.\(^6,17,19\)
- Mirasol treatment has been shown to prevent alloimmunization to platelet transfusions and cardiac transplants in animal studies.\(^8\)

**AN ALTERNATIVE TO GAMMA-IRRADIATION AS A MEANS TO PREVENT GVHD**

- Mirasol treatment may be used as an alternative to gamma-irradiation for the prevention of transfusion-associated graft-versus-host disease (TA-GVHD)

Learn more: The Mirasol system can help you provide safer blood products today. Contact your Terumo BCT sales representative or visit TERUMOBCT.COM for additional information.

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**REFERENCES**
