



Pegasus PRP Kit Characterization



01 · SUMMARY

6.4×

PLATELET CONCENTRATION

Mean platelet concentration factor vs. paired whole blood.
Median 6.3×; 95% CI 6.2–6.6.

94.4%

WHITE CELL REDUCTION

Share of the white cells in 120 mL of whole blood that do not reach the 14 mL of PRP.

0.4×

WHITE CELL CONCENTRATION

Median PRP white cell count relative to whole blood. At or below whole blood in 145 of 153 runs.

99.9%

RED CELL REDUCTION

Share of the red cells in 120 mL of whole blood that do not reach the PRP. Median PRP red cells $0.03 \times 10^6/\mu\text{L}$.

The Pegasus PRP Kit processes 120 mL of whole blood into 14 mL of leukocyte-poor PRP. This report characterizes 153 consecutive clinical preparations from 139 horses between March 17 and October 6, 2026. Every preparation is included.

Across all 153, the kit concentrated platelets a mean 6.4× over the horse's own whole blood, removed 94.4% of the white cells and 99.9% of the red cells, and delivered PRP at or below the whole blood white cell concentration in 145 of 153 preparations.

VOLUME

Results were computed at 7 mL of PRP retained per device (14 mL per kit). The current field protocol retains 10 mL per device; the results are not extrapolated to that volume.

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02 · METHOD

Study population

153 consecutive preparations from 139 horses and 30 veterinarians, March 17 to October 6, 2026, during routine clinical processing. Every run is included, and each run is one observation; 13 horses were processed more than once. Client-owned horses receiving PRP as part of routine clinical care. Blood was collected and processed with owner consent for each horse's treatment; health, housing, and medication histories were not systematically collected.

Collection

Jugular blood drawn through an 18-gauge apheresis butterfly catheter primed with ACD-A, 50–52 mL into each of two 60 mL syringes pre-loaded with 8–10 mL of ACD-A, at about 1 mL per second (about 120 mL in total), and processed within two hours.

Kit protocol

STEP	PROCEDURE
Load	Anticoagulated blood injected into the top port of each concentrator at about 1 mL per second; concentrators balanced within 2 g and placed opposite each other in the Sapphire centrifuge.
First spin	2,800 rpm for 4 minutes, brake 5.
Between spins	Platelet plasma suspension withdrawn from the bottom port with a 60 mL syringe to about 2 mL above the red cell layer; the remaining plasma and buffy coat collected with a 3 mL syringe; both reinjected into the concentrator.
Second spin	4,000 rpm for 4 minutes, brake 5.
Platelet-poor plasma	Removed from the bottom port until 7 mL remained in each concentrator.
Resuspension	Each concentrator swirled briskly until no red or orange platelet film remained.
Yield	7 mL of PRP per concentrator, about 14 mL per kit.

Counts

Whole blood and PRP on a HORIBA Micros ESV 60 hematology analyzer, undiluted, single readings. White cells and platelets in $10^3/\mu\text{L}$, red cells in $10^6/\mu\text{L}$.

Definitions

Concentration factor = PRP platelet count $\div$ whole blood platelet count, paired per preparation; independent of volume.

Total cell reduction = $1 - (\text{PRP count} \times 14 \text{ mL}) \div (\text{whole blood count} \times 120 \text{ mL})$. Volumes are nominal; no per-run PRP volume was recorded.

White cell concentration ratio = PRP white cell count $\div$ whole blood white cell count.

Units White cells, granulocytes, and platelets in $10^3/\mu\text{L}$; red cells in $10^6/\mu\text{L}$. Confidence intervals are 95% t-intervals on the mean. Calculated results are rounded to one decimal place; measured counts are shown as the analyzer recorded them.

03 · PLATELETS

PLATELET CONCENTRATION

6.4× mean concentration factor

Concentration factor is the PRP platelet count divided by the same horse's whole blood platelet count, paired per preparation. Because it is a ratio of two concentrations it does not depend on the volume of PRP drawn.

METRIC	MEAN	MEDIAN	95% CI OF MEAN	RANGE
Platelet concentration factor	6.4×	6.3×	6.2 – 6.6	3.2 – 11.2×
PRP platelets (10 ³ /μL)	962	941	923 – 1,001	427 – 1,939
Whole blood platelets (10 ³ /μL)	152	150	147 – 157	82 – 311

All 153 preparations.

PLATELETS IN WHOLE BLOOD AND IN PRP

Platelets

median, 10³/μL



04 · RED CELLS

RED CELL REDUCTION

99.9% of red cells removed

Total red cell reduction is the share of the red cells in 120 mL of whole blood that do not reach the 14 mL of PRP.

METRIC	MEAN	MEDIAN	95% CI OF MEAN	RANGE
Total red cell reduction	99.9%	99.9%	99.9 – 99.9	99.8 – >99.9%
PRP red cells (10 ⁶ /μL)	0.03	0.03	0.03 – 0.03	0.01 – 0.12
Whole blood red cells (10 ⁶ /μL)	6.26	6.17	6.12 – 6.41	4.78 – 9.47

All 153 preparations. Counts are shown as the analyzer recorded them, to two decimal places.

INDEPENDENT OF THE HORSE

Red cell carryover into the PRP showed no association with the horse's starting red cell count. Horses starting anywhere from 4.78 to 9.47 ×10⁶/μL ended with statistically indistinguishable red cell content in the PRP.

RED CELLS IN WHOLE BLOOD AND IN PRP

Red cells

median, 10⁶/μL



05 · WHITE CELLS

WHITE CELL REDUCTION

94.4% of white cells removed

METRIC	N	MEAN	MEDIAN	95% CI OF MEAN
Total white cell reduction	153	94.4%	95.1%	93.8 – 94.9
Granulocyte reduction (whole blood granulocytes ≥ 1.0)	129	96.4%	96.7%	96.1 – 96.8
White cell concentration ratio	153	0.5×	0.4×	0.4 – 0.5
PRP white cells ($10^3/\mu\text{L}$)	153	2.3	2.0	2.1 – 2.5

Granulocyte reduction is computed on the 129 preparations whose whole blood granulocyte count was at least $1.0 \times 10^3/\mu\text{L}$; below that, the analyzer's one-decimal resolution makes the percentage unreliable.

WHITE CELLS IN WHOLE BLOOD AND IN PRP

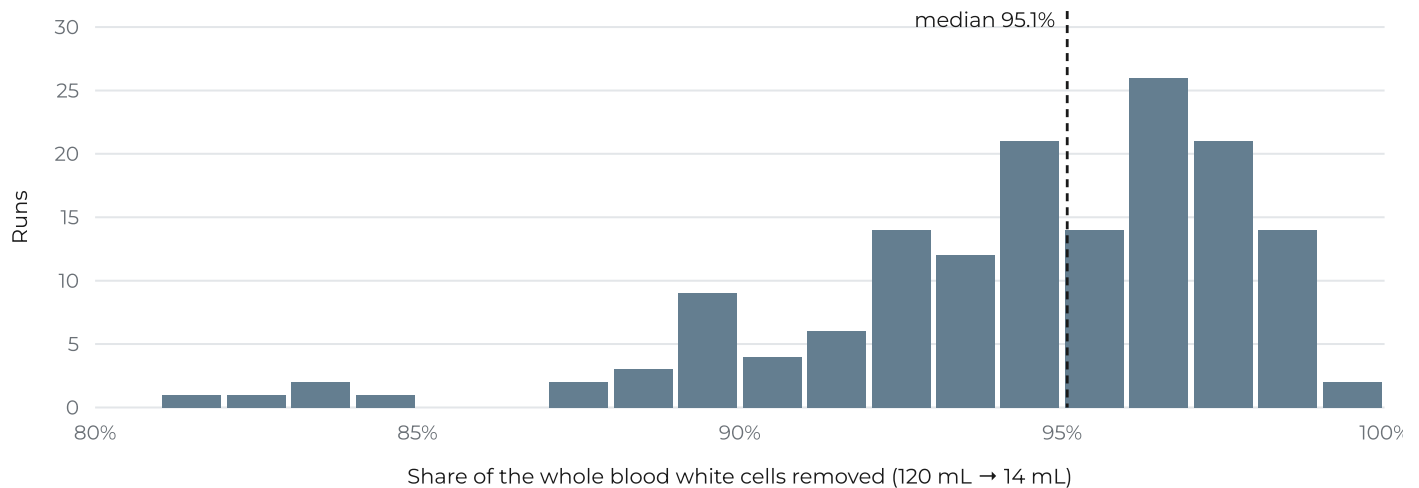
White cells

median, $10^3/\mu\text{L}$



LEUKOCYTE-POOR

White cells removed in every preparation



Share of the horse's whole blood white cells that did not reach the PRP, per preparation: 81.8% to 99.1% across all 153. Median 95.1%.