RAPID PLATELET POOR PLASMA PREPARATION
FOR COAGULATION TESTING WITH THE HET-
TICH EBA 200S (HP) BLOOD TUBE PACKAGE – 8
(FORMERLY QUICKSPIN PLUS) CENTRIFUGE

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Introduction

The Helmer EBA 200S Blood Tube Package - 8 is a small high-speed clinical bench top centrifuge developed for stat sample applications. The fixed angle rotor holds up to 8 tubes and accommodates tube capacities from 2.7mL (with included inserts) to 15mL. The EBA 200S Blood Tube Package - 8 has spin times programmable in increments of one minute and speeds up to 8000 RPM programmable in increments of 100.

Study Objective

The samples were tested to determine if the EBA 200S Blood Tube Package - 8 could consistently produce platelet poor plasma in just two minutes.

Methodology

Citrate tubes (BD #363083, 13x75mm, 2.7mL, plastic) were collected from 33 individuals and centrifuged in the EBA 200S Blood Tube Package - 8 for two minutes at 7500 RPM. The plasma samples were then tested for platelet counts using the Coulter LH and Coulter STKS analyzers.

Results

Table 1, Table 2, and Chart 1 present the results of the statistical analysis. Table 3 contains the original data, including platelet counts before and after centrifugation.

Data Analysis

Results for the EBA 200S Blood Tube Package - 8 were analyzed to assess the centrifuge's ability to rapidly produce platelet poor plasma. The mean and standard deviation (SD) for the samples were calculated post-centrifugation. The range of sample platelet counts before centrifugation ranged from 50 x 103 to 420 x 103.

Residual platelet results were evaluated based on recommendations of the Clinical and Laboratory Standards Institute (CLSI) for platelet poor plasma (less than 10,000/µL).

Interpretation

BD citrate tubes spun in the EBA 200S Blood Tube Package - 8 for 2 minutes showed consistent achievable results. The EBA 200S Blood Tube Package - 8 was able to produce tubes with residual platelet counts of less than 7,000/µL for 100% of samples, and 20 (60%) of the samples had counts of 3,000/µL or less.

Conclusion

This study demonstrates that the EBA 200S Blood Tube Package - 8 is able to consistently produce platelet poor plasma in two minutes, well within the acceptable range given by CLSI for platelet poor plasma.

Additionally, the results of this study indicate that the EBA 200S Blood Tube Package - 8 is capable of providing improved productivity and efficiency in the laboratory due to faster turnaround times.

Table 1
Platelet Count Statistical Summary

Statistical Summary		
EBA 200S	**Mean**	**Standard Dev.**
Platelet Count	3.212	1.746

Chart 1
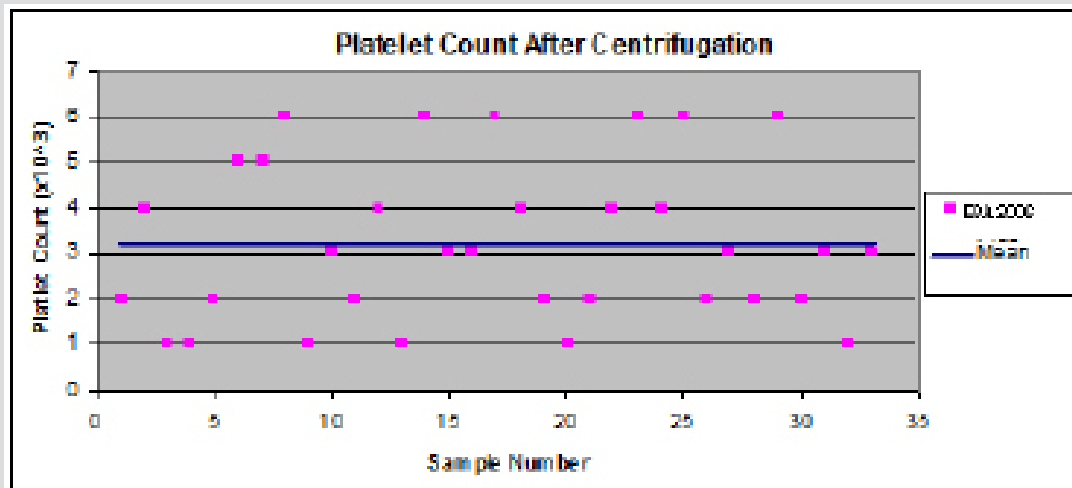Sample Platelet Count Chart

Platelet Count After Centrifugation

Table 2
Platelet Count by Thousands Per Microliter

Platelet Count By Range for Samples Spun in the EBA 200S Blood Tube Package - 8 Centrifuge			
Range (in thousands)	0-3	4-6	7-9	10+
# of Samples in range	20	13	0	0

Table 3
Original Data

Sample #	Platelet Counts (x10^3)	
	Pre-Centrifugation	Post-Centrifugation EBA 200S Blood Tube Package - 8
1	160	2
2	226	4
3	160	1
4	109	1
5	334	2
6	122	5
7	228	5
8	156	6
9	182	1
10	196	3
11	81	2
12	76	4
13	267	1
14	366	6
15	383	3
16	187	3
17	136	6
18	139	4
19	164	2
20	177	1
21	420	2
22	140	4
23	180	6
24	50	4
25	170	6
26	221	2
27	242	3
28	129	2
29	124	6
30	194	2
31	213	3
32	180	1
33	153	3
AVG	189.848	3.212

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