Spectra Optia® Apheresis System
BMP Data Sheet

TERUMO
BLOOD AND CELL TECHNOLOGIES

Comparing Bone Marrow Processing (BMP) Collection Using the COBE® Spectra Apheresis System BMP Protocol and the Spectra Optia System BMP Protocol in a Laboratory Study (N = 10)

A laboratory study was conducted to evaluate the Spectra Optia system BMP protocol using 10 pools of human whole blood. Each pool was split and run concurrently using the COBE Spectra system BMP protocol (control) and the Spectra Optia system BMP protocol (test).

Key outcome measures included mononuclear cell (MNC) and CD34+ recovery; volume; red blood cell (RBC), granulocyte (PMN), and platelet reduction; run time; and operator adjustments.

	COBE Spectra System	Spectra Optia System	*P* Value	N
Precount				
WBC × 10^9/L	7.0 ± 4.9		NA	10
CD34+/µL	58.0 ± 43.8		NA	4
Process parameters				
Volume of whole blood pool (mL)	1,500 (500 to 2,500)		NA	10
Run time (minutes) (excluding plasma collection)	62.0 ± 20.9	55.0 ± 23.3	< 0.05	10
Processing cycles	4.0 ± 0.8	5.0 ± 0.9	< 0.05	10
Operator adjustments	23.0 ± 3.1	4.0 ± 2.0	< 0.05	10
Collected products				
MNC recovery (%)	91.0 ± 5.8	99.0 ± 2.6	< 0.05	10
CD34+ recovery (%)	96.0 ± 10.5	97.0 ± 5.7	NS	4
Volume reduction (%)	93.0 ± 2.9	92.0 ± 1.5	NS	10
Volume (mL)	89.0 ± 31.3	107.0 ± 49.3	< 0.05	10
RBC reduction (%)	98.0 ± 0.9	98.0 ± 0.4	NS	10
RBC volume (mL)	5.0 ± 1.3	5.0 ± 2.2	NS	10
PMN reduction (%)	79.0 ± 26.9	80.0 ± 26.9	NS	10
PMN content (× 10^9)	0.4 ± 0.68	0.5 ± 0.79	NS	10
PMN % of white blood cells (WBCs)	8.0 ± 8.3	8.0 ± 7.3	NS	10
Platelet reduction (%)	63.0 ± 14.3	11.0 ± 5.0	< 0.05	10

The laboratory values demonstrated by this study may not represent performance under clinical conditions.

Data shown as mean ± standard deviation (except for Volume of whole blood pool shown as median (range)).

P values determined by a paired *t* test, two-tailed.

NS (not significant) indicates a *P* value of > 0.05.

Four blood pools were supplemented with the cell product collected (using the COBE Spectra MNC protocol) from granulocyte colony-stimulating factor (G-CSF)-mobilized donors so that CD34+ cell collection efficiency could be evaluated.

Product and protocol availability varies by country.

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