

QBC STAR Tube/Sample Errors Troubleshooting

Error	Description	Cause	Corrective Action
#1	Can't find I1 (RBC Range)	Leaky tube, closure pushed up or missing	Inspect tube for blood leakage, make sure blood is in center of tube when capping, prepare new tube, print diagnostic scan
#2	Slot-bottom-to I1 ≤ 50 or ≥ 225	Leaky tube, closure pushed up or missing	Inspect tube for blood leakage, make sure blood is in center of tube when capping, prepare new tube, print diagnostic scan
#3	Air vent shoulder ratio > 0.5	Non-indexing tube or excessive blood leakage	Inspect tube for blood leakage, make sure blood is in center of tube when capping, prepare new tube, print diagnostic scan
#4	No float bottom interface	Leaky tube or float did not descend	Inspect tube for blood leakage, make sure blood is in center of tube when capping, prepare new tube, print diagnostic scan
#5	Float bottom position ≤ 100 or ≥ 2300	Float found but in wrong position, stuck float or leaky tube	Prepare new tube, print diagnostic scan
#6	Max value in float cap transmittance scan ≤ 500	Invalid data	Prepare new tube, print diagnostic scan
#7	L1 Can't be calculated	Not enough L1's or L2's found	Prepare new tube, print diagnostic scan
#8	L1 ≤ 150 or ≥ 1700	L1 out of normal range	Prepare new tube, print diagnostic scan
#9	Can't find L2 interface	Not enough transmittance signal through expanded RBC's or bottom of float obscured by leaking blood	Inspect tube for blood leakage, make sure blood is in center of tube when capping, prepare new tube, print diagnostic scan
#10	L2 position ≤ 2095 or ≥ 2820	Positioning of float not correct after first carriage movement	Prepare and process new tube
#11	Max value in L2 interface ≤ 200 or ≥ 4000	Invalid data in the scan	Prepare and process new tube
#12	L2 or L7 position = 0	Invalid data in the scan	Prepare and process new tube
#13	Float length ≤ 1900 or ≥ 2000 Transmittance scan float length < 1951 or > 1998	Cells up to and/or over the top of the float, the float did not descend, the float bottom was incorrectly found	Prepare and process new tube
#14	Fill volume $< 65.0\mu\text{l}$ or $> 80.0\mu\text{l}$	Too little or too much blood in sample. Sample leaked or tube overfilled.	Prepare and process new tube. Fill between two black fill lines on tube. Make sure blood is in center of tube when capping.

#15	L7 green interface ratio <2.0; must have more green signal above the top of the float	Cells up to and/or over the float. The float did not descend. The float bottom was incorrectly found. Can result from "overflowing" sample into cap of STAR tube.	Prepare and process new tube. Fill between two black fill lines on tube. Make sure blood is in center of tube when capping.
#16	L7 position <233 or >373	Top of float not found. Cells over the top of the float. Mis-positioned optics.	Prepare and process new tube. Fill between two black fill lines on tube. Make sure blood is in center of tube when capping.
#17	Max value in L7 Red scan <=50 or >=4095	Invalid data in the scan.	Prepare and process new tube
#18	Value of interface L7 green scan <=100 or >=4295	Invalid data in the scan.	Prepare and process new tube
#19	Max value of meniscus scan <=300 or >=4095	Meniscus position suspect, possibly severe hemolysis.	Prepare and process new tube. Fill between two black fill lines on tube.
#20	Less than 4 out of 8 good scans due to individual scan errors or bandlengths not matching	Poor formation of the buffy coat layers.	If venous sample, invert venous tube 10-15x and prepare a new sample. Ensure proper mixing of sample with acridine orange dye in STAR Tube. If Capillary sample, ensure proper capillary technique. Use blade lancet, free flowing drops of blood. Do not scrape finger during collection. Ensure proper mixing of sample with acridine orange dye in STAR tube. Print diagnostic scan.
#21	Red gran-int-ratio <2.5	Poor L3 interface, streaming. Poor interface between granulocytes and red cells.	Prepare and process new tube. Ensure proper mixing of sample with acridine orange dye in STAR Tube. Verify tubes are not expired.
#22	L/M Derivative <130	Lack of a green peak in L/M band or small green peak in L/M and no dip in red signal at L/M's.	Prepare and process new tube. If venous sample, invert venous tube 10-15x prior to loading sample. Ensure proper mixing of sample with acridine orange dye in STAR Tube. Verify tubes are not expired.
#23	On re-analyzed samples, L/M Pos derivative <45	The L4 side of the valley in the red scan is not steep enough.	Re-analyze sample or prepare and process new sample.
#24	On re-analyzed samples, L/M Neg derivative >50	The L5 side of the valley in the red scan is not steep enough.	Re-analyze sample or prepare and process new sample.
#25	L/M's >8.0 and L/M derivative <300	Large L/M band but poorly defined in green and/or red scans	Re-analyze sample or prepare and process new sample.
#26	Bandlength L2 <400	Float bottom not found correctly due to float density issue or possible red cell disorder	Prepare and process new tube. Ensure proper mixing of sample with acridine orange dye in STAR Tube.
#27	L4 Green/Red ratio less than L3 Green/Red ratio	Buffy coat did not form the expected green and red profile.	Re-analyze sample or prepare and process new sample. Ensure proper mixing of sample with acridine orange dye in STAR Tube.

#28	L4 Green/Red ratio less than L5 Green/Red ratio	Buffy coat did not form the expected green and red profile.	Re-analyze sample or prepare and process new sample. Ensure proper mixing of sample with acridine orange dye in STAR Tube.
#29	Red Plasma Ratio <1.2	Possible platelets up near top of the float.	Re-analyze sample or prepare and process new sample. Ensure proper mixing of sample with acridine orange dye in STAR Tube.
#30	No Longer Used	No Longer Used	No Longer Used
#31	On control samples only, the 25 to 75% rise positions of L6 are >70 pixels apart	The control sample was not mixed sufficiently.	Open a new control vial. Prepare a new control sample tube following package insert with instructions for use.
#32	The float top width in transmittance is ≥ 62 pixels wide	Cells on top of the float.	Prepare and process new tube. Ensure proper mixing of sample with acridine orange dye in STAR Tube.
#33	Exhaust air temperature exceeds 40°C at the end of centrifugation	Continuous running of the instrument at elevated air temperatures (greater than 37° C)	Ensure proper clearance around unit. Make sure air vents are not obstructed and the environmental conditions meet specified requirements.