

FORENSIC BIOLOGY PROTOCOLS FOR FORENSIC STR ANALYSIS

GeneMarker and STR Analysis Appendix Manual		
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GeneMarker® and STR Analysis Appendix

1 STR Analysis Controls: LIMS Guidance

Type of Failure	Control	STRReRun*			STRControlReview*		
		Sample Status	System for ReRun	ReRun Parameters	Control Review	Control Comments**	Resolution**
Allelic Ladder Failure	Allelic Ladder				Fail	Reason for failure	a) Re-aliquot entire set at Fusion/PPY23 b) Reinject
	Amp Pos				No Data		
	Amp Neg				No Data		
	E Neg				No Data		
Amplification Positive Failure	Allelic Ladder				Pass		
	Amp Pos				Fail	Reason for failure	a) Re-aliquot entire set at Fusion/PPY23 b) Reamp entire set c) Reinject d) Re-aliquot at Fusion/PPY23
	Amp Neg				Pass/Fail	Only for failure – refer to specific control	
	E Neg				Pass/Fail	Only for failure – refer to specific control	
Peak(s) in Amplification Negative	Allelic Ladder				Pass		
	Amp Pos				Pass/Fail	Only for failure – refer to specific control	
	Amp Neg		a) Fusion b) PPY23		Fail	Peak(s) present	a) Re-aliquot at Fusion/PPY23 b) Reamp entire set
	E Neg				Pass/Fail	Only for failure – refer to specific control	
Peak(s) in Extraction Negative	Allelic Ladder				Pass		
	Amp Pos				Pass/Fail	Only for failure – refer to specific control	
	Amp Neg				Pass/Fail	Only for failure – refer to specific control	
	E Neg		a) Fusion b) PPY23 c) Do not rerun		Fail	Peak(s) present	a) Re-aliquot at Fusion/PPY23 b) Reamp c) Do not rerun
No or poor size standard	Affected control	#	a) Fusion b) PPY23		Fail	No or poor size standard	Refer to specific control

*Grayed out sections do not need to be filled out.

**Comments can be manually added if needed (no special characters allowed). Refer to the [STR Analysis on 3500xL Genetic Analyzers Manual](#) for further guidance on retesting strategies.

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2 GeneMarker® Codes

Code*	Sample Status
**	All peak labels removed
#	No or poor size standard
^^	Excessive elevated baseline
##	Excessive spikes
+	Migration shift

Code	Rerun System
U	PowerPlex Fusion®
P	PowerPlex Y23®
N/A	Do Not Rerun

Code	Re-aliquot Dilution
D.2	1/5 dilution
D.1	1/10 dilution
D.05	1/20 dilution
D.01	1/100 dilution
No code	No dilution

* If the above listed codes do not accurately describe the reason for rerunning the sample, please use the ** code and manually enter a reason into the sample status column in LIMS.