

**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**

1.1 Allelic Ladder Failure

	<b>RESOLUTION*</b>	<b>CHECKBOX/ F11 COMMENT</b>	<b>3500 RERUN SECTION</b>
<b>AL</b>	a) Re-aliquot analysis set b) Reinject	Ladder Pass? <b>Uncheck</b>	n/a
<b>AMP POS</b>	n/a	No Data	n/a
<b>AMP NEG</b>	n/a	No Data	n/a
<b>E NEG</b>	n/a	No Data	n/a

1.2 Amplification Positive Failure

	<b>RESOLUTION*</b>	<b>CHECKBOX/ F11 COMMENT</b>	<b>3500 RERUN SECTION</b>
<b>AL</b>	n/a	Ladder Pass? <b>Check</b>	n/a
<b>AMP POS</b>	a) Re-aliquot analysis set b) Reamp analysis set c) Reinject d) Re-aliquot control	Fail	Select Sample Status Value Select System for Rerun
<b>AMP NEG</b>	refer to specific control	Pass/Fail	Sample Status Value System for Rerun (if applicable)
<b>E NEG</b>	refer to specific control	Pass/Fail	Sample Status Value System for Rerun (if applicable)

1.3 Peak(s) in Amplification Negative Control

	<b>RESOLUTION*</b>	<b>CHECKBOX/ F11 COMMENT</b>	<b>3500 RERUN SECTION</b>
<b>AL</b>	n/a	Ladder Pass? <b>Check</b>	n/a
<b>AMP POS</b>	refer to specific control	Pass/Fail	Sample Status Value System for Rerun (if applicable)
<b>AMP NEG</b>	a) Re-aliquot control b) Reamp analysis set	Fail	Peak(s) present / Fusion or PPY23
<b>E NEG</b>	refer to specific control	Pass/Fail	Sample Status Value System for Rerun (if applicable)

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## 1.4 Peak(s) in Extraction Negative Control

	<b>RESOLUTION*</b>	<b>CHECKBOX/ F11 COMMENT</b>	<b>3500 RERUN SECTION</b>
<b>AL</b>	n/a	Ladder Pass? <b>Check</b>	n/a
<b>AMP POS</b>	refer to specific control	Pass/Fail	Sample Status Value System for Rerun (if applicable)
<b>AMP NEG</b>	refer to specific control	Pass/Fail	Sample Status Value System for Rerun (if applicable)
<b>E NEG</b>	a) Re-aliquot control b) Reamp analysis set c) Do Not Rerun	Fail	Peak(s) present / Fusion or PPY23 Do Not Rerun

\* Refer to the [STR Analysis on 3500xL Genetic Analyzers Manual](#) for further guidance on retesting strategies.

## 2 **GeneMarker® Codes**

<b>Code</b>	<b>Sample Status</b>
**	All peak labels removed
#	No or poor size standard
^^	Excessive elevated baseline
##	Excessive spikes
+	Migration shift
^	Peak(s) Present

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

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

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