Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

DNA Interpretation Test No. 14-588
Summary Report

This proficiency test was sent to 25 participants. Each participant received a sample pack consisting of a DVD containing electropherograms which they were requested to evaluate using their existing protocols. Data were returned from 20 participants (80% response rate) and are compiled into the following tables:

Manufacturer's Information

Each sample pack contained digital images and fsa files consisting of electropherograms from DNA profiles of two known samples (Items 1 & 2) and two questioned samples (Items 3 & 4). Participants were requested to evaluate the electropherograms and interpret the data using their existing protocols.

SAMPLE PREPARATION: Item 1 was created using blood collected from a female donor, Item 2 was created using blood from a male donor and Item 4 was created using blood collected from a female donor different from Item 1. The Item 3 mixture was created by combining two parts of blood from the Item 1 female donor and one part of blood from the Item 2 male donor.

SAMPLE SET ASSEMBLY: Once sample preparation and verification was completed, each DVD was checked to ensure all images were accessible.

VERIFICATION: Laboratories that conducted predistribution of the electropherograms reported consistent results and associations.

Amelogenin and STR Results

Results compiled by predistribution laboratories and a consensus of participants.

Item	D2S1338 D16S539 FGA	D3S1358 D18S51 PentaD	D5S818 D19S433 PentaE	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
1	20,21 9,9 22,25	16,18 17,20 8,10	11,13 13,15 7,11	11,11 27,29 6,8	13,14 X,X 8,9	11,12 11,12 16,16
2	17,20 11,12 22,24	16,18 16,18 8,13	11,11 11.2,14 9,12	11,12 29,30 8,9.3	12,14 X,Y 8,9	11,12 11,12 14,15
3 Major	20,21 9,9 22,25	16,18 17,20 8,10	11,13 13,15 7,11	11,11 27,29 6,8	13,14 X,X 8,9	11,12 11,12 16,16
3 Minor	17,20 11,12 22,24	16,18 16,18 8,13	11,11 11.2,14 9,12	11,12 29,30 8,9.3	12,14 X,Y 8,9	11,12 11,12 14,15
4	19,20 11,13 21,25	15,16 18,20 8,8	11,11 12,12 5,12	8,8 27,29 7,10	13,16 X,X 9,10	11,12 11,12 14,17

YSTR Results

Results compiled from predistribution laboratories and a consensus of participants.

Item	DYS19 DYS437 DYS533*	DYS385 DYS438 DYS549*	DYS389-I DYS439 DYS570*	DYS389-II DYS448 DYS576*	DYS390 DYS456 DYS635	DYS391 DYS458 DYS643*	DYS392 DYS481* Y GATA H4	DYS393
2	14 15	11,14 12	13 12	29 19	24 15 23	10 18	13 12	13
3	14 15	11,14 12	13 12	29 19	24 15 23	10 18	13 12	13

* Results were not received by a minimum of 10 participants for the YSTR loci indicated.

Release Date of Manufacturer's Information:14-July-2014

Summary Comments

This test was designed to allow participants to assess their proficiency in evaluating electropherogram(s) and interpreting data. Each participant received electropherograms (in both FSA and PDF formats) of four items including the following kits: Identifiler Plus, Powerplex 16, Yfiler, Powerplex Y23.

Of the 20 participants that reported results, all included the victim (Item 1) and the suspect (Item 2) as possible contributors to the Item 3 mixture profile and all excluded the victim (Item 1) and the suspect (Item 2) as possible contributors to the Item 4 profile.

All participants reported allelic results for Items 1 and 2 that were consistent with the consensus/predistribution testing. Thirteen participants reported consistent allelic results for the Item 3 mixture. Two participants did not report all alleles at some loci due to their reporting threshold. Six participants separated the Item 3 mixture into major and minor components. Fifteen participants reported that there were two contributors in Item 3; five reported that there were at least two contributors in the Item 3 profile. Eighteen participants reported consistent results for all loci for Item 4; one reported "inconclusive" for locus TPOX and one participant separated Item 4 into major and minor components. Sixteen participants reported that there was one contributor in Item 4; three reported that there was at least one contributor in Item 4 and one participant reported that there were two contributors in the Item 4 profile.

Release Date of Summary Report: 14-August-2014

Interpretation Guidelines

TABLE 1

WebCode	Analytical Threshold	Peak Height Ratio	Stochastic Threshold
6AKK6Y	100 rfu	60%	410 rfu
6D8ZWU	50 rfu	60%	150 rfu
7Y6TF4	50 rfu	60%	150 rfu
AFZKQF	Identifiler Plus 75rfu, PPY23 75 rfu	Identifiler Plus 40% (Reference Samples)	Identifiler 150rfu, PPY23 250 rfu (DYS385 a/b locus)
ETMHJD	50 RFU	60%	150 RFU
EX3Q6R	110	60	410
FCXUMM	50 RFU	60%	150 RFU
HEVV3B	50 rfu	60%	150 rfu
HMTM9J			
HTG8EK	50 RFU's	60%	150 RFU's
JPC2CJ	50 rfus	60%	150 rfu
L3AR7M	100 RFU	50%	200 RFU
NK3CZC	50 RFU	60%	150 RFU
PAGP4G	Reporting threshold 200 RFUs, Interpretation threshold 100 RFUs (PowerPlex 16)	50 (PowerPlex 16)	
QADMRH	35 RFU	>\=700 RFU: 60%, <700RFU: 30%	150 RFU
TMT3A8	50 RFU	60%	150 RFU
U69TNW	Identifiler Plus 75 rfus, PowerPlex Y23 75 rfus	Identifiler Plus 40% (Reference Samples)	Identifiler Plus 150 rfus, PowerPlex Y23 250 rfus (DYS385 a/b locus)
XGV4NY	30 RFU	50%	200 RFU
YXEGFW	100 RFU	50%	425 RFU
ZJ7T3T	50 rfu	60%	150 rfu

STR & Amelogenin Results

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
				Item 1			
6AKK6Y	Identifiler® Plus				FSA Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25	-	-	6,8	8,9	16,16
6D8ZWU	Identifiler® Plus, PowerPlex®16				PDF Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25	8,10	7,11	6,8	8,9	16,16
7Y6TF4	Identifiler® Plus				PDF Format		
	1	20,21	16,18	11,13	11	13,14	11,12
		9	17,20	13,15	27,29	X	11,12
		22,25			6,8	8,9	16
AFZKQF	Identifiler® Plus				PDF Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25	N/A	N/A	6,8	8,9	16,16
ETMHJD	Identifiler® Plus				PDF Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25			6,8	8,9	16,16
EX3Q6R	Identifiler® Plus				FSA Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25			6,8	8,9	16,16
FCXUMM	Identifiler® Plus, PowerPlex®16				PDF Format		
	1	20,21	16,18	11,13	11	13,14	11,12
		9	17,20	13,15	27,29	X	11,12
		22,25	8,10	7,11	6,8	8,9	16
HEVV3B	Identifiler® Plus				PDF Format		
	1	20,21	16,18	11,13	11	13,14	11,12
		9	17,20	13,15	27,29	X	11,12
		22,25			6,8	8,9	16
HMTM9J	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	1	20,21	16,18	11,13	11	13,14	11,12
		9	17,20	13,15	27,29	X	11,12
		22,25	8,10	7,11	6,8	8,9	16

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 1							
HTG8EK	Identifiler® Plus, PowerPlex®16				PDF Format		
	1	20,21	16,18	11,13	11	13,14	11,12
		9	17,20	13,15	27,29	X	11,12
		22,25	8,10	7,11	6,8	8,9	16
JPC2CJ	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25	8,10	7,11	6,8	8,9	16,16
L3AR7M	PowerPlex®16				PDF Format		
	1	NA	16,18	11,13	11	13,14	11,12
		9	17,20	NA	27,29	X,X	11,12
		22,25	8,10	7,11	6,8	8,9	16
NK3CZC	Identifiler® Plus, PowerPlex®16				PDF Format		
	1	20,21	16,18	11,13	11	13,14	11,12
		9	17,20	13,15	27,29	X	11,12
		22,25	8,10	7,11	6,8	8,9	16
PAGP4G	PowerPlex®16				PDF Format		
	1		16,18	11,13	11	13,14	11,12
		9	17,20		27,29	X,X	11,12
		22,25	8,10	7,11	6,8	8,9	16
QADMRH	Identifiler® Plus				FSA Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25			6,8	8,9	16,16
TMT3A8	Identifiler® Plus				PDF Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25			6,8	8,9	16,16
U69TNW	Identifiler® Plus				PDF Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25	N/A	N/A	6,8	8,9	16,16
XGV4NY	Identifiler® Plus				PDF Format		
	1	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25			6,8	8,9	16,16

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
			Item 1				
YXEGFW	PowerPlex®16				FSA Format		
	1		16,18	11,13	11	13,14	11,12
		9	17,20		27,29	X,X	11,12
		22,25	8,10	7,11	6,8	8,9	16
ZJ7T3T	PowerPlex®16				FSA Format, PDF Format		
	1		16,18	11,13	11	13,14	11,12
		9	17,20		27,29	X	11,12
		22,25	8,10	7,11	6,8	8,9	16

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
				Item 2			
6AKK6Y	Identifiler® Plus				FSA Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	-	-	8,9.3	8,9	14,15
6D8ZWU	Identifiler® Plus, PowerPlex®16				PDF Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
7Y6TF4	Identifiler® Plus				PDF Format		
	2	17,20	16,18	11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
AFZKQF	Identifiler® Plus				PDF Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	N/A	N/A	8,9.3	8,9	14,15
ETMHJD	Identifiler® Plus				PDF Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
EX3Q6R	Identifiler® Plus				FSA Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
FCXUMM	Identifiler® Plus, PowerPlex®16				PDF Format		
	2	17,20	16,18	11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
HEVV3B	Identifiler® Plus				PDF Format		
	2	17,20	16,18	11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
HMTM9J	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	2	17,20	16,18	11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 2							
HTG8EK	Identifiler® Plus, PowerPlex®16				PDF Format		
	2	17,20	16,18	11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
JPC2CJ	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
L3AR7M	PowerPlex®16				PDF Format		
	2	NA	16,18	11	11,12	12,14	11,12
		11,12	16,18	NA	29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
NK3CZC	Identifiler® Plus, PowerPlex®16				PDF Format		
	2	17,20	16,18	11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
PAGP4G	PowerPlex®16				PDF Format		
	2		16,18	11	11,12	12,14	11,12
		11,12	16,18		29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
QADMRH	Identifiler® Plus				FSA Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
TMT3A8	Identifiler® Plus				PDF Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
U69TNW	Identifiler® Plus				PDF Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24	N/A	N/A	8,9.3	8,9	14,15
XGV4NY	Identifiler® Plus				PDF Format		
	2	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 2							
YXEGFW	PowerPlex®16				FSA Format		
	2		16,18	11	11,12	12,14	11,12
		11,12	16,18		29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15
ZJ7T3T	PowerPlex®16				FSA Format, PDF Format		
	2		16,18	11	11,12	12,14	11,12
		11,12	16,18		29,30	X,Y	11,12
		22,24	8,13	9,12	8,9.3	8,9	14,15

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 3							
6AKK6Y	Identifiler® Plus				FSA Format		
	3	17,20,21	16,18	11,13	11,11,(12)	(12),13,14	11,12
		9,9,(11),(12)	16,17,18,20	(11.2),13,14,15	27,29,(30)	X,X,(Y)	11,12
		22,(24),25	-	-	6,8,(9.3)	8,9	(14),(15),16,16
7Y6TF4	Identifiler® Plus				PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25			6,8,9.3	8,9	14,15,16
AFZKQF	Identifiler® Plus				PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25	N/A	N/A	6,8,9.3	8,9	14,15,16
EX3Q6R	Identifiler® Plus				FSA Format		
	3	17,20,21	16,18	11,13	11,11,(12)	(12),13,14	11,12
		9,9,(11),(12)	16,17,18,20	(11.2),13,14,15	27,29,(30)	X,X,(Y)	11,12
		22,(24),25			6,8,(9.3)	8,9	(14),(15),16,16
FCXUMM	Identifiler® Plus, PowerPlex®16				PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25	8,10,13	7,9,11,12	6,8,9.3	8,9	14,15,16
HEVV3B	Identifiler® Plus				PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25			6,8,9.3	8,9	14,15,16
HMTM9J	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25	8,10,13	7,9,11,12	6,8,9.3	8,9	14,15,16
HTG8EK	Identifiler® Plus, PowerPlex®16				PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25	8,10,13	7,9,11,12	6,8,9.3	8,9	14,15,16
JPC2CJ	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25	8,10,13	7,9,11,12	6,8,9.3	8,9	14,15,16

TABLE 2

Item 3

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
L3AR7M	PowerPlex®16				PDF Format		
	3		16,18	11,(13)	11,(12)	13,14 (@)	11,12
		9,(11),(12)	(16),17,(18),20	NA	27,29,(30)	X,(Y)	11,12
		22,25,(@)	8,10,(13)	7,9,11,12	6,8,(@)	8,9	(14),(15),16
NK3CZC	Identifiler® Plus, PowerPlex®16				PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25	8,10,13	7,9,11,12	6,8,9.3	8,9	14,15,16
PAGP4G	PowerPlex®16				PDF Format		
	3		16,18	11,(13)	11,(12)	13,14,(@)	11,12
		9,(11),(12)	(16),17,(18),20		27,29,(30)	X,(Y)	11,12
		22,25,(@)	8,10,(13)	7,9,11,12	6,8,(@)	8,9	(14),(15),16
QADMRH	Identifiler® Plus				FSA Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25			6,8,9.3	8,9	14,15,16
TMT3A8	Identifiler® Plus				PDF Format		
	3	17,20,21	16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20	11.2,13,14,15	27,29,30	X,Y	11,12
		22,24,25			6,8,9.3	8,9	14,15,16
YXEGFW	PowerPlex®16				FSA Format		
	3		16,18	11,13	11,12	12,13,14	11,12
		9,11,12	16,17,18,20		27,29,30	X,Y	11,12
		22,24,25	8,10,13	7,9,11,12	6,8,9.3	8,9	14,15,16

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
				Item 3 Major			
6D8ZWU	Identifiler® Plus				PDF Format		
	3 Major	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25			6,8	8,9	16,16
7Y6TF4	Identifiler® Plus				PDF Format		
	3 Major	20,21	16,18		11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X	11,12
		22,25			6,8	8,9	16,16
ETMHJD	Identifiler® Plus				PDF Format		
	3 Major	20,21	16,18	11,13 or 11,11	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25			6,8	8,9	16,16
U69TNW	Identifiler® Plus				PDF Format		
	3 Major	20,21	16,18	11,13	11,11	13,14	11,12
		9,9	17,20	13,15	27,29	X,X	11,12
		22,25	N/A	N/A	6,8	8,9	16,16
XGV4NY	Identifiler® Plus				PDF Format		
	3 Major	20,21	16,18	11->13 (50.5%)	11	13,14	11,12
		9	17,20	13,15	27,29	X	11,12
		22,25			6,8	8,9	16
ZJ7T3T	PowerPlex®16				FSA Format, PDF Format		
	3 Major		16,18	N.D.	N.D.	13,14	11,12
		9	17,20		27,29	X	11,12
		22,25	8,10	7,11	6,8	8,9	16

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 3 Minor							
6D8ZWU	Identifiler® Plus				PDF Format		
	3 Minor	17,20	16,18	11,11	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
7Y6TF4	Identifiler® Plus				PDF Format		
	3 Minor	17			12	12	
		11,12	16,18	11.2,14	30	Y	
		24			9.3		14,15
ETMHJD	Identifiler® Plus				PDF Format		
	3 Minor	17,20	16,18	11,11 or 13,13	11,12	12,14	11,12
		11,12	16,18	11.2,14	29,30	X,Y	11,12
		22,24			8,9.3	8,9	14,15
U69TNW	Identifiler® Plus				PDF Format		
	3 Minor	17,20	INC	11	12+	12+	INC
		11,12	16,18	11.2,14	30+	X,Y	INC
		22,24	N/A	N/A	8,9.3	INC	14,15
XGV4NY	Identifiler® Plus				PDF Format		
	3 Minor	17			12	12	
		11,12	(16),18	11.2,14	30	(Y)	
		(24)			9.3		14,15
ZJ7T3T	PowerPlex®16				FSA Format, PDF Format		
	3 Minor		N.O.	N.D.	N.D.	12,14	N.O
		11,12	16,18		29,30	X,Y	N.O.
		22,24	8,13	9,12	8,9.3	N.O.	14,15

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
				Item 4			
6AKK6Y	Identifiler® Plus				FSA Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25	-	-	7,10	9,10	14,17
6D8ZWU	Identifiler® Plus				PDF Format		
	4	19,20	15,16	11	8	13,16	11,12
		11,13	18,20	12	27,29	X	11,12
		21,25			7,10	9,10	14,17
7Y6TF4	Identifiler® Plus				PDF Format		
	4	19,20	15,16	11	8	13,16	11,12
		11,13	18,20	12	27,29	X	11,12
		21,25			7,10	9,10	14,17
AFZKQF	Identifiler® Plus				PDF Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25	N/A	N/A	7,10	9,10	14,17
ETMHJD	Identifiler® Plus				PDF Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25			7,10	9*,10	14,17
EX3Q6R	Identifiler® Plus				FSA Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25			7,10	9,10	14,17
FCXUMM	Identifiler® Plus, PowerPlex®16				PDF Format		
	4	19,20	15,16	11	8	13,16	11,12
		11,13	18,20	12	27,29	X	11,12
		21,25	8	5,12	7,10	9,10	14,17
HEVV3B	Identifiler® Plus				PDF Format		
	4	19,20	15,16	11	8	13,16	11,12
		11,13	18,20	12	27,29	X	11,12
		21,25			7,10	9,10	14,17
HMTM9J	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	4	19,20	15,16	11	8	13,16	11,12
		11,13	18,20	12	27,29	X	11,12
		21,25	8	5,12	7,10	9,10	14,17

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 4							
HTG8EK	Identifiler® Plus, PowerPlex®16				PDF Format		
	4	19,20	15,16	11	8	13,16	11,12
		11,13	18,20	12	27,29	X	11,12
		21,25	8	5,12	7,10	9,10	14,17
JPC2CJ	Identifiler® Plus, PowerPlex®16				FSA Format, PDF Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25	8,8	5,12	7,10	ND	14,17
L3AR7M	PowerPlex®16				PDF Format		
	4	NA	15,16	11	8	13,16	11,12
		11,13	18,20	NA	27,29	X,X	11,12
		21,25	8	5,12	7,10	9,10	14,17
NK3CZC	Identifiler® Plus, PowerPlex®16				PDF Format		
	4	19,20	15,16	11	8	13,16	11,12
		11,13	18,20	12	27,29	X	11,12
		21,25	8	5,12	7,10	9,10	14,17
PAGP4G	PowerPlex®16				PDF Format		
	4		15,16	11	8	13,16	11,12
		11,13	18,20		27,29	X,X	11,12
		21,25	8	5,12	7,10	9,10	14,17
QADMRH	Identifiler® Plus				FSA Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25			7,10	9,10	14,17
TMT3A8	Identifiler® Plus				PDF Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25			7,10	Inconclusive	14,17
U69TNW	Identifiler® Plus				PDF Format		
	4	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25	N/A	N/A	7,10	9,10	14,17
YXEGFW	PowerPlex®16				FSA Format		
	4		15,16	11	8	13,16	11,12
		11,13	18,20		27,29	X,X	11,12
		21,25	8	5,12	7,10	9,10	14,17

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
				Item 4			
ZJ7T3T	PowerPlex®16				FSA Format, PDF Format		
	4		15,16	11	8	13,16	11,12
		11,13	18,20		27,29	X	11,12
		21,25	8	5,12	7,10	9,10	14,17

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 4 Major							
XGV4NY	Identifiler® Plus				PDF Format		
	4 Major	19,20	15,16	11,11	8,8	13,16	11,12
		11,13	18,20	12,12	27,29	X,X	11,12
		21,25			7,10	9->10 (49.5%)	14,17

TABLE 2

WebCode	Item	D2S1338 D16S539 FGA	D3S1358 D18S51 Penta D	D5S818 D19S433 Penta E	D7S820 D21S11 TH01	D8S1179 Amelogenin TPOX	D13S317 CSF1PO vWA
Item 4 Minor							
XGV4NY	Identifiler® Plus 4 Minor			PDF Format (10)			

See Additional Comments (Table 9) for laboratory specific notations.

YSTR Results

TABLE 3

WebCode	Item	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
		DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481	DYS533
		DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4		
					Item 2				
AFZKQF	PowerPlex®Y23					PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
ETMHJD	YFiler®					PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18		
					23		12		
FCXUMM	YFiler®, PowerPlex®Y23					PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
HMTM9J	YFiler®, PowerPlex®Y23					FSA Format, PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
HTG8EK	YFiler®, PowerPlex®Y23					PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
JPC2CJ	YFiler®, PowerPlex®Y23					FSA Format, PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
NK3CZC	YFiler®, PowerPlex®Y23					PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
TMT3A8	YFiler®					PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18		
					23		12		
U69TNW	PowerPlex®Y23					PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		

TABLE 3

WebCode	Item	DYS19 DYS437 DYS549	DYS385 DYS438 DYS570	DYS389-I DYS439 DYS576	DYS389-II DYS448 DYS635	DYS390 DYS456 DYS643	DYS391 DYS458 Y GATA H4	DYS392 DYS481	DYS393 DYS533
				Item 2					
XGV4NY	YFiler®					PDF Format			
	2	(14)	(11),14	13	(29)	(24)	10	13	13
		15	12	(12)	19	15	18		
					23		12		
ZJ7T3T	PowerPlex®Y23					FSA Format, PDF Format			
	2	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		

TABLE 3

WebCode	Item	DYS19 DYS437 DYS549	DYS385 DYS438 DYS570	DYS389-I DYS439 DYS576	DYS389-II DYS448 DYS635	DYS390 DYS456 DYS643	DYS391 DYS458 Y GATA H4	DYS392 DYS481	DYS393 DYS533
				Item 3					
AFZKQF	PowerPlex®Y23					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
ETMHJD	YFiler®					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18		
					23		12		
FCXUMM	YFiler®, PowerPlex®Y23					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
HMTM9J	YFiler®, PowerPlex®Y23					FSA Format, PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
HTG8EK	YFiler®, PowerPlex®Y23					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
JPC2CJ	YFiler®, PowerPlex®Y23					FSA Format, PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
NK3CZC	YFiler®, PowerPlex®Y23					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		
TMT3A8	YFiler®					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18		
					23		12		
U69TNW	PowerPlex®Y23					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		

TABLE 3

WebCode	Item	DYS19 DYS437 DYS549	DYS385 DYS438 DYS570	DYS389-I DYS439 DYS576	DYS389-II DYS448 DYS635	DYS390 DYS456 DYS643	DYS391 DYS458 Y GATA H4	DYS392 DYS481	DYS393 DYS533
				Item 3					
XGV4NY	YFiler®					PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18		
					23		12		
ZJ7T3T	PowerPlex®Y23					FSA Format, PDF Format			
	3	14	11,14	13	29	24	10	13	13
		15	12	12	19	15	18	23	12
		13	18	18	23	11	12		

DNA Analysis

Based on the examination of the DNA profiles provided, could the Victim (Item 1) and/or the Suspect (Item 2) be included as a possible contributor to the questioned Item?

TABLE 4

	Item 3 Conclusion			Item 4 Conclusion		
WebCode	# of Contributors	Item 1	Item 2	# of Contributors	Item 1	Item 2
6AKK6Y	Two	Included	Included	One	Excluded	Excluded
6D8ZWU	2	Included	Included	1	Excluded	Excluded
7Y6TF4	2	Included	Included	1	Excluded	Excluded
AFZKQF	At least 2	Included	Included	At least 1	Excluded	Excluded
ETMHJD	2	Included	Included	1	Excluded	Excluded
EX3Q6R	2	Included	Included	1	Excluded	Excluded
FCXUMM	2 Minimo	Included	Included	1	Excluded	Excluded
HEVV3B	2	Included	Included	1	Excluded	Excluded
HMTM9J	At least two	Included	Included	At least one	Excluded	Excluded
HTG8EK	2	Included	Included	1	Excluded	Excluded
JPC2CJ	2	Included	Included	1	Excluded	Excluded
L3AR7M	2	Included	Included	1	Excluded	Excluded
NK3CZC	2 Minimo	Included	Included	1	Excluded	Excluded
PAGP4G	2	Included	Included	1	Excluded	Excluded
QADMRH	2	Included	Included	1	Excluded	Excluded
TMT3A8	2	Included	Included	1	Excluded	Excluded
U69TNW	At least 2	Included	Included	At least one	Excluded	Excluded
XGV4NY	2	Included	Included	2	Excluded	Excluded
YXEGFW	2	Included	Included	1	Excluded	Excluded
ZJ7T3T	2	Included	Included	1	Excluded	Excluded

Response Summary

Participants reporting conclusions: 20

Based on the examination of the DNA profiles provided, could the Victim (Item 1) and/or the Suspect (Item 2) be included as a possible contributor to the questioned Item?

		Item 3		Item 4	
		Item 1	Item 2	Item 1	Item 2
Responses	Included	**20**	**20**	**0**	**0**
	Excluded	**0**	**0**	**20**	**20**
	Inconclusive	**0**	**0**	**0**	**0**

Statistical Analysis of Item 3

TABLE 5

WebCode	Statistical Analysis of Item 3
6AKK6Y	Combined Probability of Exclusion/Inclusion The proportion of the Chinese, Malay or Indian population whose individual DNA profiles can be included as contributors of the mixed DNA profile is estimated to be 3.70101E-11, 1.86526E-11 or 2.61615E-11 respectively.
6D8ZWU	Likelihood Ratio Intensity differences are sufficient to identify a major and a minor contributor in the mixed profile. The victims profile is used to dicriminate[sic] and to deduce the minor contributor. Statistical treatment is the same as for a single source sample. It is 496 x 10E15 (496 billiard (european scale)) times more probable that the minor profil[sic] belongs to the suspect (item 2) rather than to an unrelated other man.
7Y6TF4	Combined Probability of Exclusion/Inclusion Since our local population is almost exclusively African American and Caucasian, only these two statistics are reported. Caucasian statistic: Approximately 1 person in 300 million* would be expected to have DNA consistent with that of a contributor to the mixture. African American statistic: Approximately 1 person in one billion* would be expected to have DNA consistent with that of a contributor to the mixture. *rounded down and to one significant figure.
ETMHJD	Likelihood Ratio , Modified RMP Assuming two contributors and one of them is the victim, calculate LR or Modified RMP on minor male profile. Multiply STR and YSTR estimates.
EX3Q6R	Combined Probability of Exclusion/Inclusion The proportion of the Chinese, Malay or Indian population whose individual DNA profiles can be included as contributors of the mixed DNA profile is estimated to be 3.7E-11, 1.8E-11 or 2.6E-11 respectively.
FCXUMM	Likelihood Ratio LR Total = 1.46 E19
HEVV3B	Random Match Probability 1 in 144 thousand using D7S820, D16S539, vWA, and D18S51 loci for statistics. The most conservative statistic that was generated using the Caucasian American, Jamaican, Hispanci[sic] American, Bahama, African American and Trinidad data bases was reported.
HMTM9J	Likelihood Ratio H1: Victim and the suspect contribute to the DNA mixed profile obtained from the blood sample from victim's clothing (Item 3). H2: Victim and unknown random man are contributors to the DNA profile obtained from Item 3. LR = Given the evidence, it is, 1,4655 x 10^19 times more likely H1 than H2.
HTG8EK	Likelihood Ratio D8S1179 - 6.35, D21S11 - 4.63, D7S820 - 7.72, CSF1PO - 2.29, D3S1358 - 7.19, TH01 - 5.18, D13S317 - 3.79, D16S5539[sic] - 7.23, D2S1338 - 11.79, D19S433 - 1227.3, VWA - 119.53, TPOX - 3, D18S51 - 60.18, D5S818 - 3.31, FGA - 8.03, PENTA E - 314.93, PENTA D - 10.57. LR Total: 14.655.178.511.738.200,00 - 1,4 E16.
JPC2CJ	Likelihood Ratio LR total: 26 trillones
L3AR7M	Combined Probability of Exclusion/Inclusion

TABLE 5

WebCode	Statistical Analysis of Item 3
	The results identified from Item 3 are consistent with a mixture of DNA from two individuals. All of the results identified from Item 3 are consistent with a mixture of DNA from Item 1 and Item 2. Using Caucasian databases and 12 of 15 loci, the combined probability of exclusion for the results from Item 3 is 99.9999978%. Approximately 1 in each 46.5 million randomly selected unrelated individuals would be a potential contributor. Using African American databases and 12 of 15 loci, the combined probability of exclusions for the results from Item 3 is 99.9999992%. Approximately 1 in each 118 million randomly selected unrelated individuals would be a potential contributor. Based on the analysis performed, Item 1 and Item 2 cannot be excluded as contributors to the mixture of DNA identified from Item 3.
NK3CZC	Likelihood Ratio Total LR = 1.46 E19, Interpretation: The evidence is 1.46 E19 times more probable if it come from victim and suspect, than if it come from victim and unknown person.
PAGP4G	Combined Probability of Exclusion/Inclusion The partial results identified from item #3 are consistent with a mixture of DNA from two individuals. All of the results identified from item #3 are consistent with a mixture of DNA from the victim (item #1) and the suspect (item #2). Using Caucasian databases, 12 of 15 loci, the combined probability of exclusion for the mixture results obtained from sample 3 is 99.9999978%. Approximately 1 in each 46,503,191 randomly selected, unrelated individuals would be a potential contributor to this mixture. Based on the analysis performed, item 1 and item 2 (victim and suspect) cannot be excluded as contributors to the mixture of DNA identified from the above item [Item 3].
QADMRH	Likelihood Ratio It is 51 trillion times more likely that the observed DNA profile occurred as a result of a mixture of the sources of Item 1 (Victim) and Item 2 (Suspect) than it having originated from the victim and an unrelated individual selected at random from the U.S. population.
TMT3A8	Likelihood Ratio The STR typing result assumed there is only two sources (one male and one female). The profile is consistent with the combined DNA profiles from the victim and the suspect. The Y-STR haplotype obtained from item 3 is identical with the suspect Y-STR haplotype. The DNA profile is approximately 2.47E+31 times more likely to occur if it originated from the victim and the suspect than from two unknown individuals in the [Local] population.
U69TNW	No Calculations Performed
XGV4NY	Likelihood Ratio Based on SGM+ Loci only the results are in the order of 1 billion (1,000,000,000) times more likely to be obtained if the DNA detected originated from: "Victim" + "Suspect" rather than "Victim" + "An unknown individual". (There is also a match between the suspects Y-filer profile and that from Item 3, but this has not been evaluated further given the above).
YXEGFW	Likelihood Ratio The probability of the DNA profile is approximately 230 trillion times more likely if it originated from the victim and the suspect than from the victim and an unknown individual in the combined population.
ZJ7T3T	Random Match Probability The probability of selecting a random unrelated individual that cannot be excluded as the major contributor to this mixture is 1 in 2.7117 E+18 for African Americans, 1 in 1.898E+20 for Caucasian Americans, 1 in 7.4829E+19 for Hispanic Americans, and 1 in 9.328E+22 for Asian Americans. The probability of selecting a random unrelated individual that cannot be excluded as the minor contributor to this mixture is 1 in 4.8131E+17 for African Americans, 1 in 7.355E+18 for Caucasian Americans, 1 in 1.9946E+19 for Hispanic Americans, and 1 in 1.944E+21 for Asian Americans.

Statistical Analysis of Item 4

TABLE 6

WebCode	Statistical Analysis for Item 4
6AKK6Y	Not applicable
7Y6TF4	We would not calculate the probability of the single source profile since it did not match any other profiles in the case.
EX3Q6R	Not applicable.
HEVV3B	No statistics generated.
PAGP4G	The genotypes identified from item #4 are not consistent with the DNA profile from item #1 and item 2. The results identified from item 4 do not indicate a mixture of DNA and are consistent with a single female donor. Item 1 (victim) and item 2 (suspect) are excluded as possible contributors to the DNA obtained from item 4.
U69TNW	No Calculations Performed
XGV4NY	Suspect + Victim excluded - No statistical analysis carried out.
YXEGFW	No statistics provided. Single source profile, no indication of a mixture. This profile does not match the victim or suspect.
ZJ7T3T	Random Match Probability The probability of selecting a random unrelated individual having a DNA profile identical to the foreign DNA obtained from Item 4 is 1 in 5.59E+21 for African Americans, 1 in 5.36E+24 for Caucasian Americans, 1 in 2.23E+25 for Hispanic Americans, and 1 in 4.31E+23 for Asian Americans.

Databases Used

TABLE 7

WebCode		Database Used
6AKK6Y	Item 3:	[Country] Chinese Database, [Country] Malay Database and [Country] Indian database.
	Item 4:	Not applicable
6D8ZWU	Item 3:	An in home database established for 295 [Local] caucasians was used. For the Applied Biosystems database (User's manual AmpFISTR Identifiler, Applied Biosystems), the LR value obtained for US caucasians was 962 x 10E15.
7Y6TF4	Item 3:	Popstats databases
	Item 4:	Not applicable.
ETMHJD	Item 3:	STR: JFS (1999): 44(6): 1277-1286. JFS (2001): 46(3): 453-489. YSTR: usystrdatabase.org
EX3Q6R	Item 3:	[Country] STR population data validated by [Name]. Validation report dated 7 June 2005.
FCXUMM	Item 3:	Paredes et al., For. Sci. Int. Vol 137:67-73, 2003, Andean Regions. Yunis, et al., J. For. Sci Vol 50:1-18, Penta E and Penta D
HMTM9J	Item 3:	Forensic Science International 137 (2003): 67-73. Journal of forensic Science 50 (2005): 1-17. Penta E, Penta D. Forensic Science Intenational[sic]: Genetics 2(2008): e7-e8.D2S1338, D19S433.
HTG8EK	Item 3:	DNA Mix, Weir BS, Triggs CM, Starling L, Stowell LI, Walsh Kaj, Buckleton J. Interpreting DNA Mixtures. J Forensic sci 1997; 42 (2): 213-222
JPC2CJ	Item 3:	Forensic Sci Inte 137 (2003) 67-73 from andean population. Forensic Sci Inr[sic] Genetics 2 e7-e8 From [city].
L3AR7M	Item 3:	[State] State Police databases except for Penta D, Penta E, and D16S359 which are FBI database.
NK3CZC	Item 3:	1) Paredes et al., For. Sci. Int. Vol 137: 67-73, 2003, Andean Regions. 2) Yunis, et al., J. For. Sci Vol 50:1-18, Penta E y Penta D.
PAGP4G	Item 3:	[State] Caucasian database except Penta E, Penta D, and D16S359 (FBI database)
QADMRH	Item 3:	FBI: CAU, BLK + SWH - Most conservative stat/LR used
TMT3A8	Item 3:	15 AmpFLSTR Identifiler loci frequency data in the [Local] population (N=3794). The likelihood ratio calculated above doesn't include Y-STR haplotype statistic evaluation.
XGV4NY	Item 3:	SGM+ Databases [Local] for Caucasian, Afro-Caribbean and Asian populations.
YXEGFW	Item 3:	NIST 9-26-13
ZJ7T3T	Item 3:	Promega allele frequency database
	Item 4:	Promega allele frequency database

Amplification Kit Survey

Please list all PCR amplification kits (Autosomal and YSTR) utilized as well as any future kits to be implemented in your laboratory.

TABLE 8

WebCode	Amplification Kit
6AKK6Y	Will be implementing PowerPlex® ESX17 and PowerPlex® Y23.
6D8ZWU	Under accreditation: Identifiler and PowerPlex 16. Out of accreditation scope: Y-filer, Argus-X12, PowerPlex ESI, MiniFiler.
7Y6TF4	Currently using Identifiler. Currently validating Globalfiler and PowerPlex Y.
EX3Q6R	ESX and PowerPlex Y23.
HEVV3B	Identifiler
HMTM9J	Identifiler plus, Power plex 16 HS, NGM select, Pplex ESI 17pro, Pplex ESX, Pplex Cs7, Power plex Y, Y-filer.
HTG8EK	PowerPlex ESX, CS7 y Fusion
JPC2CJ	Power Plex ESX, Power Plex ESI, Power Plex CS5, Power Plex 21.
L3AR7M	PowerPlex 16 and PowerPlex Y
PAGP4G	PowerPlex Y; PowerPlex 16.
YXEGFW	PP16HS, Fusion

Additional Comments

TABLE 9

WebCode	Additional Comments
6D8ZWU	Genotypes for questioned item 3 were deduced for the Identifiler Plus amplification kit on the pdf format file (select button insensitive). The laboratory uses Identifiler and PowerPlex 16 for reference profiling and double allele noticing for homozygotes. The laboratory only uses Identifiler Plus for trace profiling and single allele noticing for homozygotes.
7Y6TF4	The item 4 profile is a single source profile with pull-up. Since the item 4 TPOX ratio is approximately 50%, I did not feel comfortable inferring the item 3 minor contributor where only three alleles were detected, even though some looked obvious. The CPI statistic was better than the RMP for the item 3 minor contributor when only the 4-allele loci were used in RMP. [From Table 2 - STR & Amelogenin Results, Item 3: This page was developed for use in a single source (RMP) statistic. It would not be used for CPI because alleles could not be assigned to major vs. minor for D5. It could not be determined (without looking at the known profiles) if D5 was 11,11>13,13 or 11,13>11,11. My second page 4 was included to show all alleles for CPI calculation.]
ETMHJD	*STR Identifiler Plus - Item 4: Peak height imbalance at TPOX but no evidence of mixture. Stochastic threshold not applied to YSTR for Item 2 known.
L3AR7M	@ symbols identified in Item 3 indicate results identified below reporting threshold (200 RFUs) and therefore statistical analysis was not performed on these loci. @ for D8S1179 = 12, @ for FGA = 24, @ for TH01 = 9.3. ( ) = peak height ratio < 50%
PAGP4G	Data provided in this type of proficiency test should encompass all STR kits currently available to forensic DNA laboratories. The laboratory submitting the results for this proficiency test could not evaluate Y STR data since it only uses PowerPlex Y. [From Table 2- STR & Amelogenin Results, Item 3: "The @ symbol indicates that peaks were identified below reportable threshold (200 RFUs) but were equal or higher than 100 RFUs (interpretation threshold)"; YSTR Results, Item 3: "Additional note: the use of parenthesis for reporting results indicates a peak height ratio of 50% or less"].
U69TNW	+ = Obligate Allele. INC = Inconclusive. N/A Not Applicable.
XGV4NY	[From Table 2 - STR Results, Items 3 & 4: "( ) = <200 RFU"; Table 3 - YSTR Results, Item 2: "( ) = <200 RFU"; Item 3: "Match to (S)."]
ZJ7T3T	Item #3: (1) N.D. = Not Determined. All possible genotype combinations were used for statistical analysis. (2) N.O. = Not Observed. Minor contributor was not observed but it was assumed to be masked by major contributor, therefore, loci were used for statistical analysis.

Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program *****

Test No. 14-588: DNA Interpretation

DATA MUST BE RECEIVED BY *June 23, 2014* TO BE INCLUDED IN THE REPORT

Participant Code: WebCode:

Accreditation Release Statement

CTS submits external proficiency test data directly to ASCLD/LAB and ANSI-ASQ NAB/FQS. Please select one of the following statements to ensure your data is handled appropriately.

☐ This participant's data is intended for submission to ASCLD/LAB and/or ANSI-ASQ NAB/FQS. (Accreditation Release section on the last page must be completed and submitted.)

☐ This participant's data is NOT intended for submission to ASCLD/LAB or ANSI-ASQ NAB/FQS.

Scenario:

Police are investigating an assault and battery case involving a female victim and her male companion. The Serology unit reported that only blood was found on the evidence items. The DNA unit has completely consumed all evidence items and has provided you with DNA profiles obtained from the items described below. You are requested to evaluate the DNA profiles using your laboratory specific analysis guidelines and report interpretations and statistical results.

Both .fsa and .pdf formats are provided for use in this test, choose one or both formats for evaluation.

Items Submitted (Sample Pack INT1):

Item 1: DNA profile from Reference Sample (Female Victim).

Item 2: DNA profile from Reference Sample (Male Suspect).

Item 3: DNA profile from Questioned Blood Sample from victim's clothing.

Item 4: DNA profile from Questioned Blood Sample from suspect's clothing.

Part I: DNA ANALYSIS INSTRUCTIONS

*** Use your laboratory's Interpretation guidelines for evaluation of this test.**
Please report Laboratory Specific Interpretation Guidelines below per amplification kit.

Analytical Threshold: _____

Peak Height Ratio (%): _____

Stochastic Threshold (Peak Amplitude): _____

If you do not have Interpretation guidelines, please use the following guidelines and report these values above:
Analytical Threshold: 50 rfu, Peak Height Ratio: 60%, Stochastic Threshold (Peak Amplitude): 150 rfu

* Report the allelic results for each Item in the appropriate response boxes.
* Report alleles in numerical order, separated by a comma.
* If a major and minor contributor can be distinguished and your laboratory normally reports this distinction, divide the box with a horizontal line and report the results of the major profile above the line and the minor profile below the line - indicate which is the major profile and which is the Minor (Example A); otherwise, list the alleles in numerical order (Example B).
* Please Note: Samples were completely consumed during extraction.

Example		D2S1338	D3S1358	D5S818	D7S820	D8S1179	D13S317
A	Major	14,15	14,15	12	10,11	14	12
	Minor	15,16	12,13	12,17	6	18,19	8,11
B		14,15,16	12,13, 14,15	12,17	6,10,11	14,18,19	8,11,12

Please return all pages of this data sheet.

Part I: DNA ANALYSIS

STR & Amelogenin Results for Known Item 1

STR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ Identifiler® Plus ☐ PowerPlex® 16 | ☐ .fsa format ☐ .pdf format

ITEM	D2S1338	D3S1358	D5S818	D7S820	D8S1179	D13S317
1						

ITEM	D16S539	D18S51	D19S433	D21S11	Amelogenin	CSF1PO
1						

ITEM	FGA	Penta D	Penta E	TH01	TPOX	vWA
1						

YSTR Results for Known Item 1

YSTR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler® ☐ PowerPlex® Y23 | ☐ .fsa format ☐ .pdf format

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
1								

ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481
1							

ITEM	DYS533	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4
1							

Please return all pages of this data sheet.

Part I: DNA ANALYSIS (continued)

STR & Amelogenin Results for Known Item 2

STR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ Identifiler® Plus ☐ PowerPlex® 16 | ☐ .fsa format ☐ .pdf format

ITEM	D2S1338	D3S1358	D5S818	D7S820	D8S1179	D13S317
2						

ITEM	D16S539	D18S51	D19S433	D21S11	Amelogenin	CSF1PO
2						

ITEM	FGA	Penta D	Penta E	TH01	TPOX	vWA
2						

YSTR Results for Known Item 2

YSTR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler® ☐ PowerPlex® Y23 | ☐ .fsa format ☐ .pdf format

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
2								

ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481
2							

ITEM	DYS533	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4
2							

Please return all pages of this data sheet.

Part I: DNA ANALYSIS (continued)

STR & Amelogenin Results for Questioned Item 3

STR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ Identifiler® Plus ☐ PowerPlex® 16 | ☐ .fsa format ☐ .pdf format

ITEM	D2S1338	D3S1358	D5S818	D7S820	D8S1179	D13S317
3						

ITEM	D16S539	D18S51	D19S433	D21S11	Amelogenin	CSF1PO
3						

ITEM	FGA	Penta D	Penta E	TH01	TPOX	vWA
3						

YSTR Results for Questioned Item 3

YSTR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler® ☐ PowerPlex® Y23 | ☐ .fsa format ☐ .pdf format

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
3								

ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481
3							

ITEM	DYS533	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4
3							

Please return all pages of this data sheet.

Part I: DNA ANALYSIS (continued)

Item 3 DNA Analysis Questions

1) Record the number of contributors found in the Item 3 DNA profile: _____

2) Choose the conclusion statement that best describes the results of the analysis for Item 3 based on comparisons with the Known Items (If the wording below differs from the normal wording of your conclusions, adapt these conclusions as best you can and use your preferred wording in the Additional Comments section.):

Item 1 Conclusion

- ☐ Item 1 (victim) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 3.
- ☐ Item 1 (victim) is excluded as a possible contributor to the DNA obtained from Item 3.
- ☐ The DNA typing results for Item 3 in comparison with Item 1 are inconconclusive/uninterpretable.

Item 2 Conclusion

- ☐ Item 2 (suspect) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 3.
- ☐ Item 2 (suspect) is excluded as a possible contributor to the DNA obtained from Item 3.
- ☐ The DNA typing results for Item 3 in comparison with Item 2 are inconconclusive/uninterpretable.

3) Statistical Analysis of Item 3 DNA Typing Results:
Select the statistical method(s) used by marking the associated box and report these results in the space below:

- ☐ Combined Probability of Exclusion/Inclusions (CPE/CPI)
- ☐ Likelihood Ratio (LR)
- ☐ Random Match Probability (RMP)
- ☐ Other: _____

4) Please list any databases used in the statistical analyses of Item 3 below.

Part I: DNA ANALYSIS (continued)

STR & Amelogenin Results for Questioned Item 4

STR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ Identifiler® Plus ☐ PowerPlex® 16 | ☐ .fsa format ☐ .pdf format

ITEM	D2S1338	D3S1358	D5S818	D7S820	D8S1179	D13S317
4						

ITEM	D16S539	D18S51	D19S433	D21S11	Amelogenin	CSF1PO
4						

ITEM	FGA	Penta D	Penta E	TH01	TPOX	vWA
4						

YSTR Results for Questioned Item 4

YSTR Amplification Kit Used: Please indicate the electropherogram(s) reviewed for this test.

☐ YFiler® ☐ PowerPlex® Y23 | ☐ .fsa format ☐ .pdf format

ITEM	DYS19	DYS385	DYS389-I	DYS389-II	DYS390	DYS391	DYS392	DYS393
4								

ITEM	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS481
4							

ITEM	DYS533	DYS549	DYS570	DYS576	DYS635	DYS643	Y GATA H4
4							

Please return all pages of this data sheet.

Part I: DNA ANALYSIS (continued)

Item 4 DNA Analysis Questions

1) Record the number of contributors found in the Item 4 DNA profile: _____

2) Choose the conclusion statement that best describes the results of the analysis for Item 4 based on comparisons with the Known Items (If the wording below differs from the normal wording of your conclusions, adapt these conclusions as best you can and use your preferred wording in the Additional Comments section.):

Item 1 Conclusion

- ☐ Item 1 (victim) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 4.
- ☐ Item 1 (victim) is excluded as a possible contributor to the DNA obtained from Item 4.
- ☐ The DNA typing results for Item 4 in comparison with Item 1 are inconconclusive/uninterpretable.

Item 2 Conclusion

- ☐ Item 2 (suspect) is included (cannot be excluded) as a possible contributor to the DNA obtained from Item 4.
- ☐ Item 2 (suspect) is excluded as a possible contributor to the DNA obtained from Item 4.
- ☐ The DNA typing results for Item 4 in comparison with Item 2 are inconconclusive/uninterpretable.

3) Statistical Analysis of Item 4 DNA Typing Results:
Select the statistical method(s) used by marking the associated box and report these results in the space below:

- ☐ Combined Probability of Exclusion/Inclusions (CPE/CPI)
- ☐ Likelihood Ratio (LR)
- ☐ Random Match Probability (RMP)
- ☐ Other: _____

4) Please list any databases used in the statistical analyses of Item 4 below.

Part II: ADDITIONAL COMMENTS

Comments regarding any part of this Test.

Part III: AMPLIFICATION KIT SURVEY (optional)

To accomodate your laboratory's future needs, please list all PCR amplification kits (Autosomal and YSTR) utilized as well as any future kits to be implemented in your laboratory.

Return Instructions Participant Code:

Data Sheets can be mailed or faxed (please include a cover sheet) and must be received by *June 23, 2014* to be included in the report.

MAIL: Collaborative Testing Services, Inc.
Forensic Testing Program
P.O. Box 650820
Sterling, VA 20165-0820 USA

FAX: +1-571-434-1937
or Toll-Free (U.S. only): 1-866-FAX-2CTS (329-2287)
TEL: +1-571-434-1925 *(8 am - 4:30 pm EST)*
EMAIL: forensics@cts-interlab.com

www.ctsforensics.com

Please return all pages of this data sheet.

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code: WebCode:

for Test No. **14-588: DNA Interpretation**

This release page must be completed and received by ***June 23, 2014*** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

ASCLD/LAB RELEASE

If your lab has been accredited by ASCLD/LAB and you are submitting this data as part of their external proficiency test requirements, have the laboratory's designated individual complete the following.
The information below must be completed in its entirety for the results to be submitted to ASCLD/LAB.

ASCLD/LAB Legacy Certificate No. _____ ASCLD/LAB International Certificate No. _____

Signature _____ Date _____

Laboratory Name _____

Location (City/State) _____

ANSI-ASQ NAB/FQS RELEASE

If your laboratory maintains its accreditation through ANSI-ASQ NAB/FQS, please complete the following form in its entirety to have your results forwarded.

ANSI-ASQ NAB/FQS Certificate No. _____

Signature and Title _____ Date _____

Laboratory Name _____

Location (City/State) _____

Accreditation Release

Return Instructions

Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.

Questions? Contact us 8 am-4:30 pm EST
Telephone: +1-571-434-1925
email: forensics@cts-interlab.com

Please return all pages of this data sheet.