

# FORENSIC BIOLOGY PROTOCOLS FOR FORENSIC STR ANALYSIS

## APPENDIX

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### Identifiler loci and approximate size range

| Identifiler locus | Color  | Size Range 3130xl<br>GS500 Std.             | Allele range in Ladder |
|-------------------|--------|---|------------------------|
| D8S1179           | Blue   | 123.0bp $\pm$ 0.5bp<br>To 169.0 $\pm$ 0.5bp | 8 to 19                |
| D21S11            | Blue   | 185.0bp $\pm$ 0.5bp<br>To 216.0 $\pm$ 0.5bp | 24 to 38               |
| D7S820            | Blue   | 255.0bp $\pm$ 0.5bp<br>To 291.0 $\pm$ 0.5bp | 6 to 15                |
| CSF1PO            | Blue   | 305.0bp $\pm$ 0.5bp<br>To 342.0 $\pm$ 0.5bp | 6 to 15                |
| D3S1358           | Green  | 112.0bp $\pm$ 0.5bp<br>To 140.0 $\pm$ 0.5bp | 12 to 19               |
| THO1              | Green  | 163.0bp $\pm$ 0.5bp<br>To 202.0 $\pm$ 0.5bp | 4 to 13.3              |
| D13S317           | Green  | 217.0bp $\pm$ 0.5bp<br>To 244.0 $\pm$ 0.5bp | 8 to 15                |
| D16S539           | Green  | 252.0bp $\pm$ 0.5bp<br>To 292.0 $\pm$ 0.5bp | 5 to 15                |
| D2S1338           | Green  | 307.0bp $\pm$ 0.5bp<br>To 359.0 $\pm$ 0.5bp | 15 to 28               |
| D19S433           | Yellow | 102.0bp $\pm$ 0.5bp<br>To 135.0 $\pm$ 0.5bp | 9 to 17.2              |
| vWA               | Yellow | 154.0bp $\pm$ 0.5bp<br>To 206.0 $\pm$ 0.5bp | 11 to 24               |
| TPOX              | Yellow | 222.0bp $\pm$ 0.5bp<br>To 250.0 $\pm$ 0.5bp | 6 to 13                |
| D18S51            | Yellow | 262.0bp $\pm$ 0.5bp<br>To 345.0 $\pm$ 0.5bp | 7 to 27                |
| Amelogenin        | Red    | 106.0bp $\pm$ 0.5bp<br>To 112.0 $\pm$ 0.5bp | X and Y                |
| D5S818            | Red    | 134.0bp $\pm$ 0.5bp<br>To 172.0 $\pm$ 0.5bp | 7 to 16                |
| FGA               | Red    | 214.0bp $\pm$ 0.5bp<br>To 355.0 $\pm$ 0.5bp | 17 to 51.2             |

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### MiniFiler loci and approximate size range

| MiniFiler locus | Color  | Size Range 3130xl<br>GS500 Std.             | Allele range in<br>Ladder |
|-----------------|--------|---|---------------------------|
| D13S317         | Blue   | 90.0bp $\pm$ 0.5bp<br>To 139.0 $\pm$ 0.5bp  | 8 to 15                   |
| D7S820          | Blue   | 141.5bp $\pm$ 0.5bp<br>To 193.5 $\pm$ 0.5bp | 6 to 15                   |
| Amelogenin      | Green  | 99.3bp $\pm$ 0.5bp<br>To 109.3 $\pm$ 0.5bp  | X and Y                   |
| D2S1338         | Green  | 110.9bp $\pm$ 0.5bp<br>To 179.9 $\pm$ 0.5bp | 15 to 28                  |
| D21S11          | Green  | 180.6bp $\pm$ 0.5bp<br>To 250.6 $\pm$ 0.5bp | 24 to 38                  |
| D16S539         | Yellow | 70.0bp $\pm$ 0.5bp<br>To 122.0 $\pm$ 0.5bp  | 5 to 15                   |
| D18S51          | Yellow | 122.4bp $\pm$ 0.5bp<br>To 210.4 $\pm$ 0.5bp | 7 to 27                   |
| CSF1PO          | Red    | 84.6bp $\pm$ 0.5bp<br>To 132.6 $\pm$ 0.5bp  | 6 to 15                   |
| FGA             | Red    | 136.4bp $\pm$ 0.5bp<br>To 296.4 $\pm$ 0.5bp | 17 to 51.2                |

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### YFiler loci and approximate size range

| YFiler locus | Color  | Size Range 3130xl<br>GS500 Std.             | Allele range in<br>Ladder |
|--------------|--------|---|---------------------------|
| DYS456       | Blue   | 103.0bp $\pm$ 0.5bp<br>To 123.0 $\pm$ 0.5bp | 13 to 18                  |
| DYS389I      | Blue   | 142.0bp $\pm$ 0.5bp<br>To 170.0 $\pm$ 0.5bp | 10 to 15                  |
| DYS390       | Blue   | 193.0bp $\pm$ 0.5bp<br>To 237.0 $\pm$ 0.5bp | 18 to 27                  |
| DYS389II     | Blue   | 254.0bp $\pm$ 0.5bp<br>To 294.0 $\pm$ 0.5bp | 24 to 34                  |
| DYS458       | Green  | 137.0bp $\pm$ 0.5bp<br>To 161.0 $\pm$ 0.5bp | 14 to 20                  |
| DYS19        | Green  | 175.0bp $\pm$ 0.5bp<br>To 211.0 $\pm$ 0.5bp | 10 to 19                  |
| DYS385a/b    | Green  | 243.0bp $\pm$ 0.5bp<br>To 315.0 $\pm$ 0.5bp | 7 to 25                   |
| DYS393       | Yellow | 107.0bp $\pm$ 0.5bp<br>To 143.0 $\pm$ 0.5bp | 8 to 16                   |
| DYS391       | Yellow | 148.0bp $\pm$ 0.5bp<br>To 180.0 $\pm$ 0.5bp | 7 to 13                   |
| DYS439       | Yellow | 200.0bp $\pm$ 0.5bp<br>To 228.0 $\pm$ 0.5bp | 8 to 15                   |
| DYS635       | Yellow | 242.0bp $\pm$ 0.5bp<br>To 270.0 $\pm$ 0.5bp | 20 to 26                  |
| DYS392       | Yellow | 291.0bp $\pm$ 0.5bp<br>To 327.0 $\pm$ 0.5bp | 7 to 18                   |
| Y GATA H4    | Red    | 122.0bp $\pm$ 0.5bp<br>To 142.0 $\pm$ 0.5bp | 8 to 13                   |
| DYS437       | Red    | 182.0bp $\pm$ 0.5bp<br>To 202.0 $\pm$ 0.5bp | 13 to 17                  |
| DYS438       | Red    | 223.5bp $\pm$ 0.5bp<br>To 248.5 $\pm$ 0.5bp | 8 to 13                   |
| DYS448       | Red    | 276.0bp $\pm$ 0.5bp<br>To 324.0 $\pm$ 0.5bp | 17 to 24                  |

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### Macro Filter functions - Allele Filters

| Identifiler 28 cycles | Allele Filters   |
|-----------------------|--|
| Locus                 | Stutter Filter 3130 <i>xl</i><br>(OCME validation @ 500pg) |
| D8S1179               | 11.2%  |
| D21S11                | 14.7%  |
| D7S820                | 11.0%  |
| CSF1PO                | 10.4%  |
| D3S1358               | 10.8%  |
| THO1                  | 7.7%   |
| D13S317               | 9.3%   |
| D16S539               | 9.7%   |
| D2S1338               | 10.5%  |
| D19S433               | 19.1%  |
| vWA                   | 18.1%  |
| TPOX                  | 3.0%   |
| D18S51                | 13.6%  |
| Amelogenin            | none   |
| D5S818                | 13.3%  |
| FGA                   | 24.6%  |

**For Identifiler, a general 10% filter is also applied to all loci.**

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| <b>Identifiler 31 cycles</b> | <b>Allele Filters</b>                          |
|------------------------------|--|
| Locus                        | Stutter Filter 3130 <i>xl</i><br>(ABI default) |
| D8S1179                      | 12%  |
| D21S11                       | 13%  |
| D7S820                       | 9%   |
| CSF1PO                       | 9%   |
| D3S1358                      | 11%  |
| THO1                         | 6%   |
| D13S317                      | 10%  |
| D16S539                      | 13%  |
| D2S1338                      | 15%  |
| D19S433                      | 17%  |
| vWA                          | 11%  |
| TPOX                         | 6%   |
| D18S51                       | 16%  |
| Amelogenin                   | none   |
| D5S818                       | 10%  |
| FGA                          | 11%  |

**For Identifiler, a general 10% filter is also applied to all loci.**

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| <b>MiniFiler</b> | <b>Allele Filters</b>                          |
|------------------|--|
| Locus            | Stutter Filter 3130 <i>xl</i><br>(ABI default) |
| D13S317          | 14 %   |
| D7S820           | 11 %   |
| Amelogenin       | None   |
| D2S1338          | 18 %   |
| D21S11           | 16 %   |
| D16S539          | 15 %   |
| D18S51           | 18 %   |
| CSF1PO           | 14 %   |
| FGA              | 15 %   |

**For Minifiler, a general 10% filter is also applied to all loci.**

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| <b>YFiler</b> | <b>Allele Filters</b>                                      |
|---------------|--|
| Locus         | Stutter Filter 3130 <i>xl</i><br>(OCME validation @ 500pg) |
| DYS456        | 15.77%   |
| DYS389I       | 13.65%   |
| DYS390        | 13.01%   |
| DYS389II      | 20.77%   |
| DYS458        | 14.94%   |
| DYS19         | 14.28%   |
| DYS385a/b     | 14.75%   |
| DYS393        | 15.71%   |
| DYS391        | 9.32%  |
| DYS439        | 11.14%   |
| DYS635        | 18.93%   |
| DYS392        | 24.30%   |
| Y GATA H4     | 14.36%   |
| DYS437        | 9.27%  |
| DYS438        | 7.66%  |
| DYS448        | 7.38%  |

**For YFiler, an 8 % general filter is also applied to all loci.**