

Characteristics of Y-STR Loci and Y-Chromosome Sex-Typing Markers in Commercial Kits

Markers in bold font are the 11 recommended by SWGDAM and present in all kits. DYS391 is present in PowerPlex Fusion and GlobalFiler to aid sex-typing. The Y-chromosome positions were determined using the February 2009 human reference sequence and BLAT (<http://genome.ucsc.edu/cgi-bin/hgBlat>). *Allele range listed is for PowerPlex Y23 and Yfiler Plus allelic ladder alleles. Information from Butler, J.M. (2015) *Advanced Topics in Forensic DNA Typing: Interpretation*, Table 1.3.

ChrY Position (Mb)	Y-STR Marker	Repeat Motif	Allele Range*	Present in Y-STR Kit
3.13	DYS393	AGAT	7 to 18	PPY, Yfiler, PPY23, Yfiler Plus
4.27	DYS456	AGAT	11 to 23	Yfiler, PPY23, Yfiler Plus
6.74	<i>AMEL Y</i>	+AAAGTG		<i>Fusion, GlobalFiler, etc.</i>
6.86	DYS570	TTTC	10 to 25	PPY23, Yfiler Plus
7.05	DYS576	AAAG	11 to 23	PPY23, Yfiler Plus
7.87	DYS458	GAAA	10 to 24	Yfiler, PPY23, Yfiler Plus
8.22	DYS449	TTTC	22 to 40	Yfiler Plus
8.43	DYS481	CTT	17 to 32	PPY23, Yfiler Plus
8.65	DYS627	AAAG	11 to 27	Yfiler Plus
9.52	DYS19	TAGA	9 to 19	PPY, Yfiler, PPY23, Yfiler Plus
14.10	DYS391	TCTA	5 to 16	PPY, Yfiler, PPY23, Yfiler Plus, <i>Fusion, GlobalFiler</i>
14.38	DYS635	TSTA	15 to 28	Yfiler, PPY23, Yfiler Plus
14.47	DYS437	TCTR	11 to 18	PPY, Yfiler, PPY23, Yfiler Plus
14.51	DYS439	AGAT	6 to 17	PPY, Yfiler, PPY23, Yfiler Plus
14.61	DYS389 I/II	TCTR	9 to 17 / 24 to 35	PPY, Yfiler, PPY23, Yfiler Plus
14.94	DYS438	TTTTTC	6 to 16	PPY, Yfiler, PPY23, Yfiler Plus
15.51	<i>M175</i>	[TTCTC/-]	"1" or "2"	<i>GlobalFiler Y-InDel (Y±)</i>
17.27	DYS390	TCTR	17 to 29	PPY, Yfiler, PPY23, Yfiler Plus
17.32	DYS518	AAAG	32 to 49	Yfiler Plus
17.43	DYS643	CTTTT	6 to 17	PPY23
18.39	DYS533	ATCT	7 to 17	PPY23, Yfiler Plus
18.74	GATA-H4	TAGA	8 to 18	Yfiler, PPY23, Yfiler Plus
20.80, 20.84	DYS385 a/b	GAAA	7 to 28	PPY, Yfiler, PPY23, Yfiler Plus
21.05	DYS460	ATAG	7 to 14	Yfiler Plus
21.52	DYS549	GATA	7 to 17	PPY23
22.63	DYS392	TAT	4 to 20	PPY, Yfiler, PPY23, Yfiler Plus
24.36	DYS448	AGAGAT	14 to 24	Yfiler, PPY23, Yfiler Plus
25.93, 28.03	DYF387S1 a/b	RAAG	30 to 44	Yfiler Plus