

(last update: 12.12.2005)

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The statistical data in the tables have been calculated using the formulas of Butler [2005; expected heterozygosity (H_{exp}), polymorphism information content (PIC)], Krüger et al. [1968, power of exclusion (PE)], and Jones [1972; power of discrimination (PD), power of identity (PI)]. Due to the required space, in most publications data on genotype frequencies are missing, so calculations for Hardy-Weinberg equilibrium (HWE) are impossible. Therefore we used the data given by the authors (+: HWE, -: no HWE, ?: not specified).

References:

Butler, J.M. (2005) Forensic DNA typing. Biology, technology, and genetics of STR markers. 2nd ed. Elsevier Academic press, Amsterdam etc., 489-491

Jones, D.A. (1972) Blood samples: Probability of discrimination. J. Forensic Sci. Soc. 12: 355-359

Krüger, J., Fuhrmann, E., Lichte, K.-H., Steffens, C. (1968) Zur Verwendung des Polymorphismus der sauren Erythrocytenphosphatase bei der Vaterschaftsbegutachtung. Dtsch. Z. gerichtl. Med. 64: 127-146

PENTA D

	Europe				
Population	Bosnia (autochthonous)	Cyprus (Greek)	Germany (Saxony- Anhalt)	Greece (North)	Hungary (Central, Budapest)
Ref.	(15)	(29)	(19)	(35)	(22)
n	123	1475	207	318	223
Alleles					
2.2	0.0000	0.0120	0.0000	0.0000	0.0000
3.2	0.0000	0.0003	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0080	0.0070	0.0031	0.0090
8	0.0120	0.0140	0.0140	0.0063	0.0200
9	0.2640	0.1750	0.2130	0.2091	0.1950
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.1020	0.1460	0.0890	0.1274	0.1230
11	0.2200	0.1740	0.1550	0.1997	0.1640
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1630	0.1280	0.2630	0.1447	0.2060
13	0.1500	0.2090	0.1880	0.1777	0.1930
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0570	0.0880	0.0600	0.0802	0.0580
14.1	0.0000	0.0003	0.00000	0.0000	0.0000
15	0.0280	0.0340	0.0100	0.0409	0.0290
15.2	0.0000	0.0007	0.0000	0.0000	0.0000
16	0.0000	0.0060	0.0000	0.0094	0.0020

17	0.0040	0.0007	0.0000	0.0016	0.0000
18	0.0000	0.0007	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0000	0.9967	0.9990	1.0001	0.9990
<i>H(exp)</i>	0.8182	0.8484	0.8142	0.8394	0.8356
<i>PE</i>	0.6402	0.6911	0.6307	0.6769	0.6685
<i>PI</i>	0.0575	0.0414	0.0603	0.0463	0.0485
<i>PD</i>	0.9425	0.9586	0.9397	0.9537	0.9515
<i>PIC</i>	0.7937	0.8299	0.7885	0.8189	0.8141
<i>HWE</i>	-	+	+	+	+

Europe					
Population	Hungary (Romanies, Baranya county)	Hungary (Romanies, Debrecen region)	Hungary (Ashkenazim, Budapest)	Poland (South-East)	Portugal (pooled)
Ref.	(22)	(22)	(22)	(40)	
n	206	110	178	203	744
Alleles					
2.2	0.0000	0.0000	0.0000	0.0000	0.0067
3.2	0.0000	0.0000	0.0000	0.0000	0.0007
5	0.0000	0.0000	0.0000	0.0000	0.0012
6	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	0.0000	0.0025	0.0067
8	0.0000	0.0040	0.0060	0.0049	0.0182
9	0.1160	0.1910	0.1350	0.2414	0.1984
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.2260	0.2230	0.1350	0.1158	0.0935
11	0.3520	0.2270	0.1400	0.1355	0.1777
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.0390	0.0860	0.1910	0.2118	0.1749
13	0.1940	0.1500	0.2530	0.1946	0.2066
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0610	0.1040	0.0510	0.0566	0.0841
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0120	0.0140	0.0870	0.0246	0.0250
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0030	0.0123	0.0062
17	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000

20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0000	0.9990	1.0010	1.0000	0.9999
<i>H(exp)</i>	0.7685	0.8213	0.8332	0.8232	0.8389
<i>PE</i>	0.5592	0.6411	0.6682	0.6478	0.6765
<i>PI</i>	0.0876	0.0567	0.0491	0.0551	0.0465
<i>PD</i>	0.9124	0.9433	0.9509	0.9449	0.9535
<i>PIC</i>	0.7345	0.7966	0.8120	0.7994	0.8184
<i>HWE</i>	-	+	+	+	

	Europe				
Population	Portugal (North)	Portugal (North)	Portugal (North)	Portugal (South)	Romania (Bucharest area)
Ref.	(3)	(30)	(32)	(5)	(36)
n	102	291	200	151	139
Alleles					
2.2	0.0150	0.0120	0.0000	0.0000	0.0000
3.2	0.0000	0.0017	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0060	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0040
7	0.0000	0.0052	0.0150	0.0033	0.0000
8	0.0250	0.0240	0.0100	0.0133	0.0040
9	0.1910	0.1804	0.2170	0.2133	0.2550
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.0830	0.1220	0.0600	0.0900	0.1330
11	0.2210	0.1564	0.1900	0.1733	0.1730
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1810	0.1839	0.1750	0.1533	0.1650
13	0.2010	0.1787	0.2350	0.2266	0.1760
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0540	0.1082	0.0650	0.0833	0.0720
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0250	0.0223	0.0250	0.0300	0.0180
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0050	0.0052	0.0080	0.0066	0.0000
17	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000

Σ	1.0010	1.0000	1.0000	0.9990	1.0000
<i>H(exp)</i>	0.8302	0.8494	0.8221	0.8334	0.8236
<i>PE</i>	0.6621	0.6955	0.6463	0.6661	0.6473
<i>PI</i>	0.0512	0.0412	0.0557	0.0492	0.0551
<i>PD</i>	0.9488	0.9588	0.9443	0.9508	0.9449
<i>PIC</i>	0.8079	0.8309	0.7980	0.8119	0.7997
<i>HWE</i>	+	+	+	?	+

	Europe				America, Central
Population	Spain (pooled)	Spain (Central-West, Extremadura)	Spain (Northeast)	Turkey (East Anatolia, Van and Agri area)	Mexico (Hña hñu, Otomi Amerindians, La Sierra Otomi-Tepesua, state of Hidalgo)
Ref.		(4)	(8)	(12)	(17)
n	260	56	204	116	79
Alleles					
2.2	0.0000	0.0000	0.0000	0.0000	0.0000
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0020	0.0000	0.0025	0.0000	0.0000
7	0.0039	0.0089	0.0025	0.0000	0.0000
8	0.0097	0.0000	0.0123	0.0260	0.0063
9	0.1904	0.1964	0.1887	0.2070	0.2215
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.1115	0.1161	0.1103	0.1900	0.2405
11	0.1731	0.2054	0.1642	0.1720	0.1013
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.2000	0.2054	0.1985	0.1600	0.1772
13	0.2000	0.1696	0.2083	0.1160	0.2278
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0942	0.0982	0.0931	0.0910	0.0253
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0135	0.0089	0.0147	0.0340	0.0000
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0000	0.0040	0.0000
17	0.0020	0.0000	0.0025	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000

22	0.0020	0.0000	0.0025	0.0000	0.0000
Σ	1.0023	1.0089	1.0001	1.0000	0.9999
<i>H(exp)</i>	0.8322	0.8250	0.8334	0.8423	0.7989
<i>PE</i>	0.6642	0.6567	0.6647	0.6821	0.5987
<i>PI</i>	0.0507	0.0551	0.0498	0.0448	0.0714
<i>PD</i>	0.9493	0.9449	0.9502	0.9552	0.9286
<i>PIC</i>	0.8097	0.8005	0.8113	0.8223	0.7679
<i>HWE</i>		+	+	+	+

America, South

Population	Argentina (Buenos Aires)	Argentina (Buenos Aires)	Argentina (Chaco province)	Argentina (Corrientes province)	Argentina (Formosa province)
Ref.	(25)	(39)	(28)	(28)	(28)
n	507	143	55	43	76
Alleles					
2.2	0.0010	0.0070	0.0091	0.0000	0.0066
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0066
6	0.0010	0.0000	0.0000	0.0000	0.0000
7	0.0039	0.0105	0.0091	0.0000	0.0000
8	0.0178	0.0210	0.0091	0.0116	0.0197
9	0.1765	0.1853	0.2091	0.1744	0.1974
9.2	0.0000	0.0000	0.0000	0.0000	0.0066
10	0.1647	0.1853	0.1546	0.1512	0.1908
11	0.1746	0.1503	0.1636	0.2442	0.1579
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1992	0.1748	0.1636	0.1861	0.2105
13	0.1726	0.1853	0.1818	0.1628	0.1382
13.2	0.0000	0.0000	0.0636	0.0000	0.0000
14	0.0651	0.0490	0.0364	0.0581	0.0461
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0138	0.0210	0.0000	0.0116	0.0197
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0079	0.0105	0.0000	0.0000	0.0000
17	0.0010	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0010	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0001	1.0000	1.0000	1.0000	1.0001
<i>H(exp)</i>	0.8369	0.8403	0.8402	0.8223	0.8333

<i>PE</i>	0.6709	0.6782	0.6778	0.6435	0.6653
<i>PI</i>	0.0481	0.0460	0.0461	0.0562	0.0498
<i>PD</i>	0.9519	0.9540	0.9539	0.9438	0.9502
<i>PIC</i>	0.8155	0.8198	0.8197	0.7977	0.8112
<i>HWE</i>	+	+	+	+	+

America, South					
Population	Argentina (Mendoza)	Argentina (Misiones province)	Argentina (Patagonia, Chubut province)	Argentina (Patagonia, Rio Negro province)	Argentina (Salta province)
Ref.	(25)	(28)	(31)	(31)	(28)
n	286	168	314	576	82
Alleles					
2.2	0.0035	0.0000	0.0000	0.0009	0.0000
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0018	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0087	0.0030	0.0159	0.0191	0.0061
8	0.0105	0.0089	0.0127	0.0243	0.0061
9	0.2028	0.2173	0.1592	0.1788	0.2500
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.1941	0.1607	0.2596	0.2352	0.2439
11	0.1451	0.1280	0.1815	0.1493	0.1402
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1801	0.2292	0.1608	0.1528	0.1951
13	0.1731	0.1696	0.1529	0.1762	0.1159
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0542	0.0566	0.0303	0.0486	0.0183
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0157	0.0238	0.0223	0.0122	0.0244
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0105	0.0000	0.0016	0.0017	0.0000
17	0.0000	0.0030	0.0032	0.0009	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0001	1.0001	1.0000	1.0000	1.0000
<i>H(exp)</i>	0.8342	0.8254	0.8232	0.8326	0.8059
<i>PE</i>	0.6664	0.6505	0.6480	0.6644	0.6149
<i>PI</i>	0.0494	0.0542	0.0550	0.0500	0.0659
<i>PD</i>	0.9506	0.9458	0.9450	0.9500	0.9341

<i>PIC</i>	0.8123	0.8017	0.7995	0.8106	0.7776
<i>HWE</i>	+	+	+	+	+
America, South					
Population	Argentina (Santa Fe)	Argentina (Southwest, Neuquen province)	Colombia (Antioquia)	Ecuador (Mestizos)	Ecuador (African descent)
Ref.	(25)	(37)	(13)	(14)	(16, 24)
n	551	111	364	317	104
Alleles					
2.2	0.0064	0.0045	0.0120	0.0040	0.0890
3.2	0.0000	0.0000	0.0010	0.0020	0.0050
5	0.0018	0.0000	0.0080	0.0020	0.0330
6	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0073	0.0180	0.0110	0.0060	0.0470
8	0.0100	0.0180	0.0190	0.0160	0.1170
9	0.2024	0.2027	0.1650	0.2060	0.1360
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.1906	0.2387	0.1870	0.2330	0.2010
11	0.1661	0.1441	0.2280	0.1210	0.1450
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1806	0.1847	0.1520	0.1620	0.0750
13	0.1624	0.1486	0.1070	0.1740	0.1030
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0545	0.0360	0.0710	0.0670	0.0370
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0145	0.0000	0.0230	0.0060	0.0140
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0027	0.0045	0.1100	0.0000	0.0000
17	0.0009	0.0000	0.0010	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0010	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0002	0.9998	1.0960	0.9990	1.0020
<i>H(exp)</i>	0.8327	0.8230	0.8329	0.8273	0.8773
<i>PE</i>	0.6630	0.6456	0.7687	0.6530	0.7552
<i>PI</i>	0.0504	0.0556	0.0503	0.0531	0.0273
<i>PD</i>	0.9496	0.9444	0.9497	0.9469	0.9727
<i>PIC</i>	0.8103	0.7987	0.8105	0.8040	0.8651
<i>HWE</i>	+	+	+	+	+

	America, South	Asia, Indian Subcontinent			
Population	Ecuador (Quichua)	India (Mizoram, Hmar)	India (Mizoram, Mara)	India (Mizoram, Lai)	India (Mizoram, Lusei)
Ref.	(24)	(7)	(7)	(7)	(7)
n	115	80	90	92	92
Alleles					
2.2	0.0000	0.0000	0.0000	0.0000	0.0000
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0110	0.0220
7	0.0000	0.0000	0.0110	0.0110	0.0000
8	0.0087	0.0250	0.0330	0.0320	0.0330
9	0.2304	0.3620	0.3220	0.3150	0.2930
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.3391	0.1245	0.0780	0.0870	0.0980
11	0.1348	0.1500	0.1560	0.1740	0.2060
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.0870	0.0870	0.1330	0.1520	0.1190
13	0.1565	0.1500	0.1220	0.0980	0.0980
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0348	0.0750	0.1220	0.0980	0.1300
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0087	0.0130	0.0110	0.0220	0.0000
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0130	0.0000	0.0000	0.0000
17	0.0000	0.0000	0.0110	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	<i>1.0000</i>	<i>1.0000</i>	<i>0.9990</i>	<i>1.0000</i>	<i>0.9990</i>
<i>H(exp)</i>	<i>0.7803</i>	<i>0.7943</i>	<i>0.8170</i>	<i>0.8189</i>	<i>0.8199</i>
<i>PE</i>	<i>0.5789</i>	<i>0.6138</i>	<i>0.6469</i>	<i>0.6509</i>	<i>0.6468</i>
<i>PI</i>	<i>0.0795</i>	<i>0.0661</i>	<i>0.0549</i>	<i>0.0541</i>	<i>0.0550</i>
<i>PD</i>	<i>0.9205</i>	<i>0.9339</i>	<i>0.9451</i>	<i>0.9459</i>	<i>0.9450</i>
<i>PIC</i>	<i>0.7491</i>	<i>0.7705</i>	<i>0.7956</i>	<i>0.7976</i>	<i>0.7973</i>
<i>HWE</i>	+	+	+	+	+

Asia, Indian Subcontinent

Population	India (Bihar, Yadav)	India (Bihar, Kurmi)	India (Bihar, Baniya)	India (Central, Dheria Gond)	India (Central, Agharia)
Ref.	(11)	(11)	(11)	(20)	(20)
n	45	50	45	36	72
Alleles					
2.2	0.0000	0.0000	0.0000	0.0000	0.0000
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	0.0000	0.0000	0.0000
8	0.0260	0.0200	0.0560	0.0220	0.0000
9	0.1970	0.1430	0.1670	0.2610	0.1370
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.2370	0.1940	0.2770	0.0870	0.2750
11	0.1710	0.2140	0.2440	0.2170	0.1770
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1320	0.2040	0.1220	0.1960	0.1070
13	0.1050	0.0920	0.0670	0.1740	0.1180
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0790	0.0820	0.0110	0.0430	0.1070
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0530	0.0510	0.0560	0.0000	0.0490
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0000	0.0000	0.0200
17	0.0000	0.0000	0.0000	0.0000	0.0100
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0000	1.0000	1.0000	1.0000	1.0000
<i>H(exp)</i>	0.8376	0.8363	0.8101	0.8062	0.8346
<i>PE</i>	0.6754	0.6719	0.6283	0.6151	0.6734
<i>PI</i>	0.0468	0.0478	0.0617	0.0658	0.0472
<i>PD</i>	0.9532	0.9522	0.9383	0.9342	0.9528
<i>PIC</i>	0.8172	0.8153	0.7845	0.7779	0.8147
<i>HWE</i>	+	+	+	+	+

Asia, Indian Subcontinent

Population	India (Central, Teli)	India (Central, Satnami)	India (South, Karnataka state, Iyengar Brahmin)	India (South, Karnataka state, Lingayat)	India (South, Karnataka state, Gowda)
Ref.	(20)	(20)	(21)	(21)	(21)

n	50	50	65	98	59
Alleles					
2.2	0.0000	0.0000	0.0000	0.0000	0.0000
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0070	0.0000	0.0000
7	0.0000	0.0230	0.0070	0.0050	0.0000
8	0.0240	0.0000	0.0150	0.0200	0.0430
9	0.2020	0.1450	0.2610	0.1680	0.2320
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.1790	0.2500	0.1920	0.1930	0.2670
11	0.2620	0.0530	0.2760	0.3160	0.2580
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1190	0.3070	0.1150	0.0760	0.0770
13	0.0950	0.1180	0.0760	0.1320	0.0860
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.1190	0.0260	0.0230	0.0610	0.0340
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0000	0.0390	0.0230	0.0250	0.0000
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0130	0.0000	0.0000	0.0000
17	0.0000	0.0260	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	<i>1.0000</i>	<i>1.0000</i>	<i>0.9950</i>	<i>0.9960</i>	<i>0.9970</i>
<i>H(exp)</i>	<i>0.8206</i>	<i>0.8019</i>	<i>0.7985</i>	<i>0.8067</i>	<i>0.7920</i>
<i>PE</i>	<i>0.6428</i>	<i>0.6198</i>	<i>0.6016</i>	<i>0.6219</i>	<i>0.5906</i>
<i>PI</i>	<i>0.0565</i>	<i>0.0650</i>	<i>0.0692</i>	<i>0.0622</i>	<i>0.0740</i>
<i>PD</i>	<i>0.9435</i>	<i>0.9350</i>	<i>0.9308</i>	<i>0.9378</i>	<i>0.9260</i>
<i>PIC</i>	<i>0.7963</i>	<i>0.7761</i>	<i>0.7698</i>	<i>0.7818</i>	<i>0.7612</i>
<i>HWE</i>	+	+	-	+	+

Asia, Indian Subcontinent					
Population	India (South, Karnataka state, Muslim)	India (Sakunapakshollu, East and West Godawari Andhra Pradesh)	India (Bhumihar, Bihar)	India (Reddy, East and West Godawari, Andhra Pradesh)	India (Khandait, Puri area, state of Orissa)
Ref.	(21)	(23)	(23)	(23)	(23)

n	45	22	18	19	17
Alleles					
2.2	0.0000	0.0000	0.0000	0.0260	0.0290
3.2	0.0000	0.0000	0.0000	0.0260	0.0290
5	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0220	0.0000	0.0000	0.0000	0.0000
8	0.0330	0.0000	0.2220	0.1050	0.3240
9	0.1770	0.2500	0.0830	0.1580	0.0880
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.2220	0.2500	0.2780	0.2630	0.3240
11	0.2330	0.2270	0.1940	0.2630	0.0880
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1110	0.1140	0.1390	0.0790	0.0590
13	0.1660	0.0910	0.0560	0.0530	0.0290
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0220	0.0680	0.0280	0.0260	0.0290
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0110	0.0000	0.0000	0.0000	0.0000
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0000	0.0000	0.0000
17	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	<i>0.9970</i>	<i>1.0000</i>	<i>1.0000</i>	<i>0.9990</i>	<i>0.9990</i>
<i>H(exp)</i>	<i>0.8230</i>	<i>0.7976</i>	<i>0.8057</i>	<i>0.8146</i>	<i>0.7677</i>
<i>PE</i>	<i>0.6438</i>	<i>0.6000</i>	<i>0.6171</i>	<i>0.6378</i>	<i>0.5675</i>
<i>PI</i>	<i>0.0554</i>	<i>0.0712</i>	<i>0.0653</i>	<i>0.0584</i>	<i>0.0857</i>
<i>PD</i>	<i>0.9446</i>	<i>0.9288</i>	<i>0.9347</i>	<i>0.9416</i>	<i>0.9143</i>
<i>PIC</i>	<i>0.7990</i>	<i>0.7673</i>	<i>0.7781</i>	<i>0.7906</i>	<i>0.7359</i>
<i>HWE</i>	+	+	+	+	+

	Asia, Indian Subcontinent				Asia, Far East
Population	India (Naga, Manipur and Nagaland)	India (Juang, Orissa, Keonjhar and Dhenkanal district)	India (Paroja, Orissa, Koraput-Narangpur district)	India (Saora, Orissa)	China (Beijing, Han population)
Ref.	(23)	(27)	(27)	(27)	(10)
n	15	50	77	35	201

Alleles					
2.2	0.0000	0.0000	0.0000	0.0000	0.0000
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0330	0.0000	0.0000	0.0000	0.0060
7	0.0000	0.0500	0.0200	0.0280	0.0000
8	0.0670	0.1100	0.0260	0.0860	0.0542
9	0.1330	0.1800	0.2660	0.2860	0.3102
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.3000	0.2500	0.2730	0.1290	0.0813
11	0.1330	0.1900	0.2010	0.1290	0.2078
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.2000	0.1500	0.0650	0.1140	0.1777
13	0.0670	0.0400	0.0650	0.1430	0.1205
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0000	0.0300	0.0710	0.0850	0.0392
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0000	0.0000	0.0130	0.0000	0.0030
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0000	0.0000	0.0000
17	0.0670	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	<i>1.0000</i>	<i>1.0000</i>	<i>1.0000</i>	<i>1.0000</i>	<i>0.9999</i>
<i>H(exp)</i>	<i>0.8201</i>	<i>0.8294</i>	<i>0.7996</i>	<i>0.8361</i>	<i>0.8034</i>
<i>PE</i>	<i>0.6502</i>	<i>0.6602</i>	<i>0.6110</i>	<i>0.6778</i>	<i>0.6183</i>
<i>PI</i>	<i>0.0544</i>	<i>0.0513</i>	<i>0.0681</i>	<i>0.0458</i>	<i>0.0649</i>
<i>PD</i>	<i>0.9456</i>	<i>0.9487</i>	<i>0.9319</i>	<i>0.9542</i>	<i>0.9351</i>
<i>PIC</i>	<i>0.7981</i>	<i>0.8072</i>	<i>0.7717</i>	<i>0.8171</i>	<i>0.7771</i>
<i>HWE</i>	+	+	+	+	+

Asia, Far East

Population	China (Hong Kong)	Japan (pooled)	Japan	Japan	Singapore (Chinese)
Ref.	(6)		(2)	(18)	(38)
n	247	672	508	164	184
Alleles					
2.2	0.0000	0.0000	0.0000	0.0000	0.0000
3.2	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000

6	0.0020	0.0008	0.0000	0.0031	0.0000
7	0.0100	0.0030	0.0030	0.0031	0.0109
8	0.0710	0.0256	0.0270	0.0213	0.0543
9	0.3550	0.3019	0.2930	0.3293	0.3315
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.1360	0.2357	0.2370	0.2317	0.1005
11	0.1030	0.1800	0.1780	0.1860	0.1359
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1560	0.1371	0.1430	0.1189	0.1793
13	0.1080	0.0874	0.0900	0.0793	0.1114
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0490	0.0241	0.0230	0.0274	0.0707
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0080	0.0053	0.0070	0.0000	0.0027
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0020	0.0000	0.0000	0.0000	0.0027
17	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0000	1.0008	1.0010	1.0001	0.9999
<i>H(exp)</i>	0.8013	0.7932	0.7964	0.7816	0.8089
<i>PE</i>	0.6263	0.5977	0.6027	0.5798	0.6342
<i>PI</i>	0.0619	0.0727	0.0709	0.0793	0.0593
<i>PD</i>	0.9381	0.9273	0.9291	0.9207	0.9407
<i>PIC</i>	0.7789	0.7633	0.7670	0.7500	0.7861
<i>HWE</i>	+		+	+	+

	Asia, Far East			Africa	
Population	Singapore (Indians)	Singapore (Malay)	Vietnam (North, Hanoi area)	Cabo Verde	Equatorial Guinea (living in Madrid)
Ref.	(38)	(38)	(9)	(5)	(26)
n	177	161	178	17	134
Alleles					
2.2	0.0000	0.0000	0.0000	0.1176	0.1600
3.2	0.0000	0.0000	0.0000	0.0000	0.0110
5	0.0000	0.0000	0.0000	0.0294	0.0630
6	0.0028	0.0000	0.0000	0.0000	0.0040
7	0.0085	0.0124	0.0310	0.0588	0.0340

8	0.0339	0.0528	0.0760	0.1176	0.1190
9	0.2119	0.3851	0.3430	0.1786	0.1940
9.2	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.2147	0.1646	0.1350	0.1471	0.0930
11	0.2429	0.1025	0.1320	0.1176	0.1830
11.3	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.1299	0.1801	0.1210	0.1177	0.0560
13	0.0706	0.0714	0.1100	0.0588	0.0750
13.2	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.0565	0.0217	0.0450	0.0588	0.0040
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0226	0.0093	0.0060	0.0000	0.0040
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0056	0.0000	0.0000	0.0000	0.0000
17	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0030	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	0.9999	0.9999	1.0020	1.0020	1.0000
<i>H(exp)</i>	0.8232	0.7731	0.8112	0.8799	0.8664
<i>PE</i>	0.6502	0.5805	0.6447	0.7584	0.7316
<i>PI</i>	0.0546	0.0791	0.0564	0.0266	0.0322
<i>PD</i>	0.9454	0.9209	0.9436	0.9734	0.9678
<i>PIC</i>	0.7999	0.7455	0.7904	0.8677	0.8521
<i>HWE</i>	+	+	+	?	+

Africa					
Population	Mozambique	Mozambique (Maputo)	Tunisia	Tunisia (Zriba, Arabs)	Tunisia (Kesra, Berbers)
Ref.	(3)	(33)	(1)	(34)	(34)
n	107	137	200	45	44
Alleles					
2.2	0.1640	0.1530	0.0160	0.0600	0.0240
3.2	0.0000	0.0000	0.0000	0.0000	0.0120
5	0.0370	0.0370	0.0030	0.0000	0.0000
6	0.0050	0.0040	0.0000	0.0000	0.0000
7	0.0330	0.0440	0.0110	0.0120	0.0000
8	0.1450	0.1460	0.0380	0.0240	0.0000
9	0.1450	0.1420	0.1680	0.2260	0.1430
9.2	0.0000	0.0000	0.0000	0.0000	0.0000

10	0.1870	0.2010	0.1780	0.2020	0.1430
11	0.1170	0.1200	0.1510	0.0710	0.1670
11.3	0.0050	0.0040	0.0000	0.0000	0.0000
12	0.1170	0.1090	0.1350	0.0830	0.1550
13	0.0370	0.0330	0.1810	0.1670	0.3450
13.2	0.0000	0.0000	0.0050	0.0000	0.0000
14	0.0050	0.0040	0.0620	0.1190	0.0000
14.1	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.0050	0.0040	0.0380	0.0360	0.0120
15.2	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0110	0.0000	0.0000
17	0.0000	0.0000	0.0030	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000
Σ	1.0020	1.0010	1.0000	1.0000	1.0010
<i>H(exp)</i>	0.8648	0.8640	0.8590	0.8485	0.7873
<i>PE</i>	0.7287	0.7265	0.7160	0.6983	0.5929
<i>PI</i>	0.0334	0.0336	0.0360	0.0406	0.0741
<i>PD</i>	0.9666	0.9664	0.9640	0.9595	0.9259
<i>PIC</i>	0.8497	0.8489	0.8429	0.8309	0.7584
<i>HWE</i>	+	+	-	+	+

References

- (1) **Brandt-Casedevall, C., Ben Dihad, M., Taroni, F., Gehrig, C., Dimo-Simonin, N., Zemni, M., Mangin, P.** (2003) Tunesian population allele frequencies for 15 PCR-based loci. *Prog. Forensic Genet. 9 / Int. Congress Ser. 1239: 113-116*
- (2) **Hashiyada, M. Itakura, Y., Nata, M.** PowerPlex™ 16 analysis in the Japanese population. *Prog. Forensic Genet. 9 / Int. Congress Ser. 1239: 125-130*
- (3) **Alves, C., Gusmao, L., Pereira, L., Amorim, A.** (2003) Multiplex STR genotyping: comparison study, population data and new sequence information. *Prog. Forensic Genet. 9 / Int. Congress Ser. 1239: 131-135*
- (4) **Garcia-Hirschfeld, J., Farfan, M.J., Prieto, V., Lopez-Soto, M., Torres, Y., Sanz, P.** (2003) Allele distribution of 15 STRs in a population from Extremadura (Central-West Spain). *Prog. Forensic Genet. 9 / Int. Congress Ser. 1239: 165-169*
- (5) **Ribeiro, T., Viriato, L., Vieira-Silva, C., Cruz, C., Espinheira, R., Geada, H.** (2003) Portuguese population data on two pentanucleotide STR loci Penta E and Penta D. *Prog. Forensic Genet. 9 / Int. Congress Ser. 1239: 235-238*
- (6) **Law, M.Y., To, K.Y., Ho, S.H., Pang, B.C.M., Wong, L.M., Wun, H.L., Yau, S.K., Chan, K.L.** (2002) STR data for the PowerPlex™ 16 loci for the Chinese population in Hong Kong. *Forensic Sci. Int. 129: 64-67*
- (7) **Maity, B., Nunga, S.C., Kashyap, V.K.** (2003) Genetic polymorphism revealed by 13 tetrameric and 2 pentameric STR loci in four Mongoloid tribal population. *Forensic Sci. Int. 123: 216-222*
- (8) **Paredes, M., Crespillo, M., Luque, J.A., Valverde, J.L.** (2003) STR frequencies for PowerPlex® 16 System Kit in a population from Northeast Spain. *Forensic Sci. Int. 135: 75-78*
- (9) **Shimada, I., Brinkmann, B., Tuyen, N.Q., Hohoff, C.** (2002) Allele frequency data for 16 STR loci in the Vietnamese population. *Int. J. Legal Med. 116: 246-248*

- (10) **Liu, Y., Huo, Z.Y., Tang, H., Wang, J., Jiao, Z., Ma, W., Jiangwei, Y., Yang, J., Jia, S., Zhu, X.** (2003) Frequency data for 15 STR loci and forensic use in a Beijing-Han population. *Prog. Forensic Genet.* 9 / *Int. Congress Ser.* 1239: 267-270
- (11) **Ashma, R., Kashyap, V.K.** (2002) Genetic polymorphism at 15 STR loci among three important subpopulation of Bihar, India. *Forensic Sci. Int.* 130: 58-62
- (12) **Cakir, A.H., Celebioglu, A., Altunbas, S., Yardimci, E.** (2003) Allele frequencies for 15 STR loci in Van-Agri districts of the Eastern Anatolia region of Turkey. *Forensic Sci. Int.* 135: 60-63
- (13) **Gaviria, A., Ibarra, A.A., Jaramillo, N., Palacio, O.D., Acosta, M.A., Brion, M., Carracedo, A.** (2004) Nineteen autosomal microsatellite data from Antioquia (Colombia). *Forensic Sci. Int.* 143: 69-71
- (14) **Gonzalez-Andrade, F., Sanchez-Q, D., Martinez-Jarreta, B.** (2003) Genetic profile of Equadorian Mestizo population (Ecuador – South America) by using the Power Plex® 16 System Kit. *Forensic Sci. Int.* 135: 64-66
- (15) **Konjhodzic, R., Kubat, M., Skavic, J.** (2004) Bosnian population data for 15 STR loci in Power Plex 16 kit. *Int. J. Legal Med.:* 119-121
- (16) **Gonzalez-Andrade, F., Sanchez de Gozalez, D., Martinz-Jarreta, B.** (2004) Genetic profile of the Ecuadorian Black population (Ecuador-South America) by using the Power Plex® 16 system kit. *Prog. Forensic Genet.* 10 / *Int. Congress Ser.* 1261: 166-168
- (17) **Barrot-Feixat, C., Gonzalez-Martin, A., Ortega, M., Sanchez, C., Gorostiza, A., Huguet, E., Brandt-Casadevall, C., Corbella, J., Gene, M.** (2004) Hña hñu Amerindian population from La Sierra Otomi-Tepehua (Mexico) characterised by 14 STR-PCR polymorphisms. *Prog. Forensic Genet.* 10 / *Int. Congress Ser.* 1261: 179-181
- (18) **Hara, M., Yamamoto, Y., Takada, A., Saito, K., Kido, A., Oya, M., Kameyama, H.** (2004) Population data for 15 STR loci D3S1358, TH01, D21S11, D18S51, Penta E, D5S818, D13S317, D7S820, D16S539, CSF1PO, Penta D., vWA, D8S1179, TPOX and FGA in Japanese. *Prog. Forensic Genet.* 10 / *Int. Congress Ser.* 1261: 204-206
- (19) **Immel, U.-D., Kleiber, M., Klintschar, M.** (2004) Population genetic analysis in a German population from Saxony-Anhalt using the PowerPlex™ 16 system. *Prog. Forensic Genet.* 10 / *Int. Congress Ser.* 1261: 216-218
- (20) **Sarkar, N., Kashyap, V.K.** (2002) Genetic diversity at two pentanucleotide STR and thirteen tetranucleotide STR loci by multiplex PCR in four predominant population groups of central India. *Forensic Sci. Int.* 128: 196-201
- (21) **Rajkumar, R., Kashyap, V.K.** (2002) Distribution of alleles of 15 STR loci of the Powerplex™ 16 Multiplex system in four predominant population groups of South India. *Forensic Sci. Int.* 126: 173-177
- (22) **Egyed, B., Füredi, S., Angyal, M., Balogh, I., Kalmar, L., Padar, Z.** (2005) Analysis of the population heterogeneity in Hungary using fifteen forensically informative STR markers. *Forensic Sci. Int.*, in press
- (23) **Kashyap, V.K., Sarkar, N., Trivedi, R.** (2002) Allele frequencies for STR loci of the PowerPlex™ 16 multiplex system in five endogamous population of India. *Forensic Sci. Int.* 126: 178-186
- (24) **González-Andrade, F., Sánchez-Q, D., Martínez-Jarreta, B.** (2005) Genetic analysis of the Amerindian Kichwas and Afroamerican descendents populations from Ecuador characterized by 15 STR-PCR polymorphisms. *Forensic Sci. Int.*, in press
- (25) **Marino, M., Sala, A., Corach, D.** (2005) Population genetic analysis of 15 autosomal STRs loci in the central region of Argentina. *Forensic Sci. Int.*, in press
- (26) **Alves, C., Gusmao, L., Lopez-Parra, A.M., Soledad Mesa, M., Amorim, A., Arroyo-Pardo, E.** (2005) STR allelic frequencies for an African population sample (Equatorial Guinea) using AmpF/STR Identifiler and Powerplex 16 kits. *Forensic Sci. Int.* 148: 239-242
- (27) **Sahoo, S., Kasyap, V.K.** (2002) Genetic variation at 15 autosomal microsatellite loci in the three highly endogamous tribal populations of Orissa, India. *Forensic Sci. Int.* 130: 189-193
- (28) **Marino, M., Sala, A., Corach, D.** (2005) Genetic analysis of the populations from Northern and Mesopotamian provinces of Argentina by means of 15 autosomal STRs. *Forensic Sci. Int.*, in press
- (29) **Cariolou, M.A., Manoli, P., Demetriou, N., Bashiardes, E., Karagrigoriou, A., Budowle, B.** (2005) Allele distribution of 15 STR loci used for human identity purposes in the Greek Cypriot population of the island of Cyprus. *Forensic Sci. Int.*, in press
- (30) **Abrantes, D., Pontes, M.L., Lima, G., Rezende, P.A., Pereira, M.J., Pinheiro, M.F.** (2003) Analysis of Penta D and Penta E STR loci in a Northern Portuguese population. *Prog. Forensic Genet.* 9 / *Int. Congress Ser.* 1239: 223-226

- (31) **Marino, M., Sala, A., Corach, D.** (2005) Genetic attributes of 15 autosomal STRs in the population of two patagonian provinces of Argentina. *Forensic Sci. Int.*, in press.
- (32) **Pinheiro, M.F., Cainé, L., Pontes, L., Abrantes, D., Lima, G., Pereira, M.J., Rezende, P.** (2005) Allele frequencies of sixteen STRs in the population of Northern Portugal. *Forensic Sci. Int.* 148: 221-223
- (33) **Alves, C., Gusmao, L., Damasceno, A., Soares, B., Amorim, A.** (2004) Contribution for an African autosomic STR database (AmpF/STR Identifiler and Powerplex 16 System) and a report on genotypic variations. *Forensic Sci. Int.* 139: 201-205
- (34) **Cherni, L., Loueslati Yaacoubi, B., Pereira, L., Alves, C., Khodjet El Kill, H., Ben Ammar El Gaaied, A., Amorim, A.** (2005) Data for 15 autosomal STR markers (Powerplex 16 System) from two Tunisian populations: Kesra (Berber) and Zriba (Arab). *Forensic Sci. Int.* 147: 101-106
- (35) **Kovatsi, L., Parsons, T.J., Just, R.S., Irwin, J.A.** (2005) Genetic variation for 15 autosomal STR loci (PowerPlex 16) in a population sample from northern Greece. *Forensic Sci. Int.*, in press
- (36) **Barbarii, L.E., Rolf, B., Constantinescu, C., Hohoff, C., Calistru, P., Dermengiu, D.** (2004) Allele frequencies of 13 short tandem repeat (STR) loci in Romanian population. *Forensic Sci. Int.* 141: 171-174
- (37) **Toscanini, U., Berardi, G., Raimondi, E.** (2003) STR data for PowerPlex®16 system from Neuquen population, SW Argentina. *Forensic Sci. Int.* 134: 219-221
- (38) **Yong, R.Y.Y., Aw, L.T., Yap, E.P.H.** (2004) Allele frequencies of 15 STR loci in three main ethnic populations in Singapore using an in-house marker panel. *Forensic Sci. Int.* 141: 175-183
- (39) **Berardi, G., Toscanini, U., Raimondi, E.** (2003) STR data for PowerPlex®16 system from Buenos Aires population, Argentina. *Forensic Sci. Int.* 134: 222-224
- (40) **Koziol, P., Ciesielka, M., Madro, R., Krajka, A.** (2004) Genetic data on 19 STR loci in south-east Poland. *Forensic Sci. Int.* 139: 89-92