

R-U106 Haplotype Diversity and Discrimination Capacity

Haplotype Diversity (h) ^{1,2,4} by Region																	
Region	U106	U106x	L48	L48x	L47	L47x	L44	L44x	L46	L45	Z8	Z8x	Z326	Z18	Z18x	L257	P312 ⁵
All	0.9982	1.0000	0.9951	1.0000	0.9932	0.9855	0.9697		1.0000		0.9842	0.9890	0.9930	0.9891	1.0000	0.9545	0.9996
UK&I	0.9985	1.0000	0.9967		1.0000	1.0000	1.0000				0.9167	0.9333	0.9905	0.9167		0.8571	
NWE	0.9907		0.9701										0.9111				
Sca	0.9962		0.9818														
CE	0.9949		0.9883														
NEE	0.9844		0.9667		0.9524	0.9333											
SWE	1.0000																
SEE	1.0000																

YHRD allele set (DYS393, 390, 19 439, 389I, 392, 389II, 458, 437, 44 H4, 456, 438) [<http://www.yhrd.org>]

$$h = \frac{n}{n-1} \left(1 - \sum_{i=1}^M x_i^2 \right)$$

n is number
haplotypes

$$d = \frac{M}{N}$$

M is the number of unique haploty
number of haplotypes in the samp
analysis and necessarily $M \leq N$)

Discrimination Capacity (d) ³ by Region																	
Region	U106	U106x	L48	L48x	L47	L47x	L44	L44x	L46	L45	Z8	Z8x	Z326	Z18	Z18x	L257	P312 ⁵
All	0.7265	1.0000	0.7211	1.0000	0.8696	0.8750	0.8333		1.0000		0.8696	0.9286	0.8475	0.9167	1.0000	0.8333	0.9722
UK&I	0.8322	1.0000	0.8276		1.0000	1.0000	1.0000				0.7778	0.8333	0.9333	0.7778		0.7143	
NWE	0.8333		0.7333										0.7000				
Sca	0.9394		0.9091														
CE	0.9000		0.8947														
NEE	0.8684		0.8095		0.8571	0.8333											
SWE	1.0000																
SEE	1.0000																

1 Wikipedia - Y-STR Haplotypes [http://en.wikipedia.org/wiki/Haplotype#Y-STR_haplotypes]

2 John Chandler; Genealogy-DNA-L Archives; Re: [DNA] PubMed abstract: Haplotype diversity in Campania, Italy; 17 Aug 2005 [<http://archiver.rootsweb.ancestry.com/th/read/genealogy-dna/2005-08/1124309491>]

3 Ann Turner; Genealogy-DNA-L Archives; Re: [DNA] PubMed abstract: Haplotype diversity in Campania, Italy; 17 Aug 2005 [<http://archiver.rootsweb.ancestry.com/th/read/genealogy-dna/2005-08/1124298025>]

4 Arlequin V3.1 Manual, Section 7.1.1.1 - Gene Diversity (from p. 180 of Nei, M., 1987 Molecular Evolutionary Genetics. Columbia University Press, New York, NY, USA.) [<http://cmpg.unibe.ch/software/arlequin3/arlequin31.pdf>]

5 Source Data: R1b1b2 rs3427300+ Project; as of 9 Aug 2008; N = 140 [<http://www.familytreedna.com/public/atlantic-r1b1c>]

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λ , 391, 385,
18, GATA
/1]

(4)

number of haplotypes, M is the number of unique
and x_i is the haplotype frequency

(3)

types and N is the total
sample size ($N > 5$ for this

Region Index:

UK&I - United Kingdom & Ireland
NWE - North Western Europe
Sca - Scandinavia
CE - Central Europe
NEE - North Eastern Europe
SWE - South Western Europe
SEE - South Eastern Europe