

Accepted Manuscript

Title: Evaluation of the impact of genetic linkage in forensic identity and relationship testing for expanded DNA marker sets

Author: Andreas O. Tillmar Chris Phillips



PII: S1872-4973(16)30192-2

DOI: <http://dx.doi.org/doi:10.1016/j.fsigen.2016.10.007>

Reference: FSIGEN 1596

To appear in: *Forensic Science International: Genetics*

Received date: 6-7-2016

Revised date: 7-10-2016

Accepted date: 13-10-2016

Please cite this article as: Andreas O.Tillmar, Chris Phillips, Evaluation of the impact of genetic linkage in forensic identity and relationship testing for expanded DNA marker sets, *Forensic Science International: Genetics* <http://dx.doi.org/10.1016/j.fsigen.2016.10.007>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Evaluation of the impact of genetic linkage in forensic identity and relationship testing for expanded DNA marker sets

Andreas O. Tillmar^{a,b,*} and Chris Phillips^c

^a Department of Forensic Genetics and Forensic Toxicology, National Board of Forensic Medicine, Linköping, Sweden

^b Department of Clinical and Experimental Medicine, Faculty of Health Sciences, Linköping University, Linköping, Sweden

^c Forensic Genetics Unit, Institute of Legal Medicine, University of Santiago de Compostela, Santiago de Compostela, Spain

***Corresponding author**

Andreas Tillmar, Department of Forensic Genetics and Forensic Toxicology, National Board of Forensic Medicine, Artillerigatan 12, SE-58758 Linköping, Sweden

Email: andreas.tillmar@rmv.se

Phone: 0046104834100

Fax: 0046104834199

Highlights

- A biostatistical tool for analyzing the overall effect of linkage on likelihood calculations in various forensic genetic case scenarios is presented.
- The tool is provided as a command script via the open-source platform R and is prepared with reference data for over 40 STRs and 140 SNPs.
- The tool can be used during marker selection and the design of new marker panels or applied to existing marker sets to examine the effect of linkage on a case-by-case basis.
- Studies of existing forensic marker panels show the impact of linkage is generally small, but may be more considerable in individual cases.

Download English Version:

<https://daneshyari.com/en/article/4760405>

Download Persian Version:

<https://daneshyari.com/article/4760405>

[Daneshyari.com](https://daneshyari.com)