

Letter to the Editor—Nomenclature and Allele Repeat Structure Update for the Y-STR Locus GATA H4

Sir:

Establishing a consensus nomenclature can facilitate data comparison for proficiency testing, quality assurance, and casework results. Efforts into nomenclature standardization should be supported and lauded. The DNA Commission of the International Society of Forensic Genetics (ISFG) has issued new recommendations on the nomenclature and specifically addressed the Y GATA H4 marker (1).

There are differences in allele designations at the GATA H4 marker between those recommended in the Applied Biosystems AmpF/STR[®] Yfiler[™] polymerase chain reaction amplification kit (Applied Biosystems, Foster City, CA) and the ISFG recommendations. The nomenclature for the GATA H4 marker in the Yfiler kit is based on the allele repeat structure defined by the National Institute of Standards and Technology Standard reference material (SRM) 2395 and the work of Butler et al. (2). In the Yfiler kit the variable core repeat (TAGA) is used to designate the alleles (such as alleles 8–13 in the allelic ladder of the Yfiler kit) (3,4). Furthermore, the Yfiler kit primers amplify the region now designated as the GATA H4.1 locus as defined by Gusmao et al. (5) and recommended by the ISFG Commission. The GATA H4.1 locus structure consists of a core repeat region designated as AGAT and nonvariable tetranucleotide repeats ((AGAT)₄CTA-T(AGAT)₂(AGGT)₃(AGAT)_n) that are considered for allele number designation under the ISFG recommendations. Thus, there is a difference in allele nomenclature that depends on whether or not the nonvariable region is included.

Those who choose to follow the allele nomenclature recommendations of the ISFG Commission should add a correction factor of nine to the Yfiler allele number, and they should refer to this marker as GATA H4.1. Employing the ISFG proposed allele designation for GATA H4.1 changes the Yfiler kit allelic ladder range from 8–13 to 17–22. Alternatively, those who amplify the entire GATA H4 region (GATA H4.1 and GATA

H4.2) should add a correction factor of 16 to the Yfiler kit allele number. In this case, the Yfiler kit allelic ladder for GATA H4 ranges from 24 to 29.

References

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Julio J. Mulero, Ph.D.
Applied Biosystems
850 Lincoln Centre Dr.
Foster City, CA 94404
E-mail: mulerojj@appliedbiosystems.com

Bruce Budowle, Ph.D.
Federal Bureau of Investigation Laboratory
2501 Investigation Parkway
Quantico, VA 22135

John M. Butler, Ph.D.
National Institute of Standards and Technology
Gaithersburg, MD 20899-8311

Leonor Gusmão
Department of Population Genetics
IPATIMUP, Instituto de Patologia e Imunologia
Molecular da Universidade do Porto
R. Dr Roberto Frias s/n
Porto 4200-465, Portugal