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(54) **MATERIALS AND METHODS FOR DETECTING VAGINAL EPITHELIAL CELLS**

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(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

The subject invention pertains to biomarkers for detecting vaginal epithelial cells in a sample, particularly, a forensic sample. In one embodiment, the level of methylation at the PFN3A locus in the genetic material isolated from the sample is used to detect and/or quantify vaginal epithelial cells in a sample. In another embodiment, the level of methylation at the PFN3A locus in the genetic material isolated from a sample is determined by pyrosequencing technique using specific primers described herein. A further embodiment of the invention provides a method of determining the level of methylation at the PFN3A locus in the genetic material isolated from a cell suspected of being a vaginal epithelial cell and that is isolated from a sample. Kits containing primers and reagents for carrying out the methods disclosed herein are also provided.

12 Claims, 8 Drawing Sheets