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(54) Title: CERTIFICATION OF ANIMAL-DERIVED PRODUCT(S) BASED ON DNA-METHYLATION

(57) Abstract: The present invention relates to a method of certifying a test animal-derived product sample, the method comprising the steps of: (a) determining a test methylation profile of one or more pre-selected methylation sites within the genomic material obtained from the test animal derived product sample; and (b) comparing the test methylation profile obtained from (a) with a reference methylation profile obtained from a control animal of the same biological taxon of the test animal from which the product sample is derived from, where the control animal is not slaughtered by a single cut across the throat severing both carotid arteries, both jugular veins, both vagus nerves, trachea and/or esophagus and/or the control animal is not bled to death wherein a difference in the test methylation profile of (a) compared to the reference methylation profile from the control animal, is indicative of the test animal having been slaughtered by a single cut across the throat severing both carotid arteries, both jugular veins, both vagus nerves, trachea and/or oesophagus and/or of the test animal having been bled to death and the test animal-derived product is certified so, and wherein the pre-selected methylation sites are CpG sites selected from genes or regions of genomic DNA from the control and test animal that shows the highest degree of methylation variation during the training of the method.

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