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(54) Title: AN EPIGENETIC CLOCK FOR *GALLIFORMES*

(57) Abstract: The invention pertains to an *in vitro* method for predicting the chronological age of healthy *Galliformes*, the method comprising the steps of: (a.) obtaining genomic DNA from biological sample material deriving from the *Galliformes* subject or from the *Galliformes* population to be tested, (b.) determining the methylation level of a set of specific CpG sites in the genomic *Galliformes* DNA obtained in step (a.), and (c.) comparing the methylation levels of these CpG sites in the genomic *Galliformes* DNA from the sample to be tested with the methylation level of the same CpG sites from an age-correlated reference sample, thereby establishing the epigenetic age and predicting the chronological age of the subject or of the population to be tested; wherein for the set of specific CpG sites in step (b) the impact of genetic polymorphisms is eliminated by excluding CpG sites associated with single nucleotide polymorphisms, and the impact of sex-specific methylation differences on sex chromosomes is eliminated by excluding all CpG sites located on sex chromosomes. The invention also pertains to the determination of inflammation in the *Galliformes* by determining methylation. The examples concerns broilers with a life span up to 63 days.



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