

Analysis of Relation between Aging and Telomere using Datamining – Apriori, Decision Tree, and Support Vector Machine(SVM)

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Abstract— There have been a lot of researches about aging. Our study suggests a new research method using RTEL (Regulator of Telomere Elongation Helicase). Telomere is the region of repetitive DNA sequence at the end of chromosomes used as a buffer during the DNA replication. We made four sets (each set includes 3 mammals whose lifespan is almost similar) which have different lifespan range, and compared the RTEL DNA sequence among 4 sets in order to analyze how RTEL DNA sequence influence lifespan and aging. All of these studies were proved by Apriori, Decision Tree, SVM. Through this process, we found that the tendency of amino acid expression in each set is generally similar, but there are some amino acids which differentiate each other. Furthermore, we can support this research to Cancer since Telomere is receiving attention for main factor for finding the solution of cancer. Our research would be widely used as background knowledge for the research of Cancer and contribute to finding the relations between telomere and aging, lifespan in mammals.

Keyword— Apriori, Decision Tree, Support Vector Machine(SVM), Telomere, RTEL (Regulator of Telomere Elongation Helicase), Aging, Cancer, mammal



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