**Dino-Chicken Makes a Breakthrough**

Since the Human Genome Project launched years ago, scientists have been making huge advancements in mapping and altering DNA. There has been recent talk of a “Chickenosaurus.” It sounds a little far fetched, but you would be surprised how modify the DNA of a chicken can open doors for tremendous discoveries in the future.

 Newly explored genome sequences have increased the amount of overall genome construction and organization available to the scientific community. There have been several studies that link birds to dinosaurs throughout time. All of these studies were primarily circumstantial with comparative features through the evolutionary process. However, since the breakthrough in determining the genome construction and organization there is a closer link. When comparing the avian genomes the results showed that a reputed karyotype of a dinosaur ancestor was present for each chromosome. In other words, the shapes and makeup of the chicken’s chromosomes were seen to be the most similar to that of what is thought to be a dinosaur. Of the twenty species analyzed, the chicken’s genealogy appeared to have had the smallest amount of changes in comparison to the dinosaur ancestor.

 Every human has the same genetic make up, the only things making us different is some of us have genes that are “turned off” or dormant. Recent findings are leading to the idea of turning on the genes that are off or turning off unwanted genes. By understanding how to modify specific molecular mechanisms, there is an abundance of possibilities. But you might be asking, why a chicken and a dinosaur? Considering the new information about the close chromosomal makeup of the chicken and the velociraptor, the challenge was taken as an intelligible simplification of a human genome.

 There are only four extensive changes that need to be made to the chicken for it to the physical characteristics of the velociraptor. The main sizable changes consist of changing the wings and tail. When the chicken is still in the embryo stage is shows significant signs of the long arms, but it disappears as the chicken develops. By modernizing this no longer present feature, it is believed that the chicken could fully resemble the prehistoric animal. In the most recent study published the evolution journal, they altered a chickens DNA when at the embryo stage that allowed the chicken to have a snout versus a beak. They did this by altering the DNA that coded for the skull. They focused primarily on two genes that are associated with the development of the facial structure. The researchers turned off these two genes that coded for a beak, and the chicken instead had a snout. This unexpectedly resulted in a change in the roof of the chicken’s mouth. As they continue the study, their goal is to find out if every genetic change will result in another unexpected change and also if the unexpected changes are beneficial or not.

 This extensive research is not only bringing joy to science fiction nerds everywhere, but has great potential to change lives in tremendous ways. If these researchers could find a way to shut off a gene without negative outcomes then they could possibly shut off genes for a serious illness, like Huntington’s disease or cystic fibrosis. The chickenosaurus could answer huge question about the human body and conceivably safe lives.

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