

How DNA finds its match

The article is about an experiment conducted by Stephen Kowalczykowski and Anthony Forget on how DNA strands find their exact match. For 50 years since James Watson and Francis Crick showed that DNA is a double helix of two strands complementing each other, how they find their match has been a mystery in the biological world. In a process called recombination, a damaged piece of double stranded DNA by stripping it to a single strand which looks for a complementary sequence in an intact chromosome to use a template to guide the repair. However, for over 20 years, Forget and Kowalczykowski have done experiments in their lab to see how the process happens. They did this by stretching single molecules of DNA between two tiny beads to make a dumbbell shape held in place by a laser. A protein RecA is then added to the singled strand to see how it will find its match with other DNA genomes. If there are defects in DNA repair and copying, it can cause cancer, birth defects, and other problems.

Hypothesis based because they carried out and performed an experiment to find out how one DNA strand matches up with another one.

This is important because now humans know how the DNA double helix is combined and formed so they can continue to research to find out to avoid certain mutations for the better and avoid diseases that could have once kill you.

http://www.biologynew.net/archives/2012/02/08/how_dna_finds_its_match.html