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The Wide Angle: DNA That Improves Your Love Life

By Tamara Brown, Chief Scientific Officer, GenePartner

Most of us remember a controversial science fiction movie "GATTACA" featuring Ethan Hawke and Uma Thurman. It is a movie depicting a dark future where people are discriminated against based on their genes and everyone is a literally a slave to their own DNA. Is this true? Is this going to be our future?

Not likely, but knowing your DNA could improve your love life.

The last few years have seen a boom in genetic tests available to persons privately. DNA-genealogy, paternity and sibling testing, personal genome typing and very recently, genetic partner matching are already available on the market.

Whether or not you physically click with someone, whether or not you feel that rare sensation of perfect chemistry with someone special, basically whether you are biologically compatible with someone actually depends on the sequence of DNA base pairs in a specific location on chromosome number six. This part of DNA codes the so-called Human Leukocyte Antigen (HLA) that plays a crucial role in our body's immune system defenses against diseases. It's one of the rare genes that displays polymorphism, which means that not all people have exactly the same sequence of this gene. HLA genes with different sequences are called alleles and it is advantageous to have a greater variety of HLA alleles because that provides the body with a more sophisticated defense mechanism against a wider variety of diseases.

And that evolutionary benefit in turn plays an important role in our partner choice: we will prefer a partner who has HLA alleles different from our own, because that will ensure our children will have a greater variety of HLA genes, and thus a better mechanism to fight diseases and consequentially, will be likelier to survive. This is a very old but very strong instinct developed throughout the course of evolution to ensure our survival. Sensing this biological compatibility is something our bodies do automatically and subconsciously with all people we come in contact with. It happens naturally.

But, it does not happen naturally in the virtual world of an online dating site. Our society has developed in such a way that meeting interesting people online has become a mainstream way of finding partners. [GenePartner](#)'s analysis of biological compatibility is designed to bridge the gap between having many interesting contacts on an online dating site and having the "butterflies in the stomach" feeling when finally meeting that special someone.

So all I need to know to find my perfect forever-and-ever partner is his or her DNA, right? Not quite. For a relationship to be happy and fulfilling there are two important aspects that must fit: social compatibility (such as similar age, education levels, interests, life goals etc) and biological compatibility, which is hard-coded in our genes. It is vital that every person chooses a partner that fits them socially as well as biologically. While finding a socially compatible match on an internet dating site is popular and well established, being able to screen for the level of biological compatibility is an exciting new complementary feature on social platforms and dating sites.

In the future, it's feasible that most major industries will incorporate the use of information stored in our DNA to improve our standard of living. The relationship industry with its matchmakers and online dating sites is one of the first to be able to take advantage of this knowledge and be a pioneer in the upcoming era of personal genetics by using GenePartner's DNA analysis to determine the level of biological compatibility between two people.

Tamara Brown is an entrepreneur and [GenePartner](#)'s chief science officer. She holds a master's degree in molecular genetics and a PhD in neurobiology. Before coming to GenePartner, Brown worked as a senior clinical manager at Novartis in Basel, Switzerland. The views expressed are the author's alone and do not represent the official position of the Discovery Channel. For comments, please email discoverytech@discovery.com.

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