Bioinformatics - lab report example

Science, Biology

Bioinformatics

Blast P Down syndrome is a condition that occurs because of a genetic defect. A normal person has 46 chromosomes while a person with Down syndrome has 47 chromosomes. This extra chromosome affects the brain and body development. Down syndrome is very common and is the cause of many birth defects in humans (Selikowitz 6). Down syndrome can be diagnosed at birth: the doctor can look at the appearance of the baby or listen to the baby's chest using a stethoscope. A blood test can also be done to confirm the diagnosis by checking the extra chromosome.

I chose a protein from a human being accession number NP_001380 (Down syndrome cell adhesion molecule isoform CHD2-42 precursor). After conducting a blast p search, I chose the following proteins EFR29682. 1 a hypothetical protein from Anopheles darlingi it had an E value of 10. This protein is not in any way related to Down syndrome. This is a protein from mosquito saliva and matches by chance. This E value is high; its significance is low in relation to Down syndrome (Pevsner 7).

Protein 2 is EGW12244. 1 known as Down syndrome critical region protein 3–like from Chinese hamster (Cricetulus griseus). This protein has an E value of 1 and is related to Down syndrome since the E value is very low. The hamster genome is similar to the human genome (Pevsner 15).

Protein 3 was XP_002122877 with an E value of 0. 4 it is a protein predicted to be similar to Down syndrome critical region protein 3 (Down syndrome critical region protein A). It is a protein from Ciona intestinalis, an invertebrate that is closest to humans and shares 80 % of the genome. It has very high significance in the study of Down syndrome.

Works Cited

Selikowitz. M. Down Syndrome. New York: Singage, 2008. Print.

Pevsner, J. Bioinformatics and Functional genomics. London: Oxford, 2009. Print.

“ Proteins”. www. ncbi. nlm. nih. gov/. Web. 8th Nov. 2011.