Molecular interactions of human psychiatric risk-associated transcription factor-4 with enhancer box DNA sequence containing 5-carboxy cytosine

Anandi V. Makina , Durga S.K. Atti, Sowmyasri R. Dasari and Ravikiran S. Yedidi*

a. The Center for Advanced-Applied Biological Sciences & Entrepreneurship (TCABS-E), Visakhapatnam, Andhra Pradesh, India. 530002.dr
b. ST.JOSEPH'S COLLEGE FOR WOMEN (A) , c. Dr Lankapalli Bullaya Collage
*Correspondence to RSY: tcabse.india@gmail.com

INTRODUCTION

Schizophrenia is a serious mental disorder in which people interpret reality abnormally. Schizophrenia may result in some combination hallucinations, delusions, and extremely disordered thinking and behavior that impairs daily functioning, and can be disabling. The Symptoms Shown in schizophrenia patients(FIG. 1) are Positive symptoms (hallusinations such as hearing voies and seeing things that not exist) , negative symptoms (A loss to express emotions) ,and disorganised symptoms (Troubled with logical thinking and disorganised speech) .Researchers believe that a number of genetic and environmental factors contribute to caution and life stressors may play a role in the start of symptoms.

Schizophrenia affects approximately 0.3% to 0.7% of people. It impacts people from all racial backgrounds and ethnicities and is slightly more common in men than in women. The exafct causes are unknown, but it has both genetic and environmental risk factors.

Treatments consists of medications (Antipsychoitic and Anti-Tremor) and Therapies rehabilitation) . .

EXPERIMENTALS

The disease Schizophrenia was referred in PDB box (protein data box) to study certain structures on Schizophrenia . As of the reference in the data box it is obtained with 187 protein structures of the diseases .As of further analysis the structures related to humans we opted filters Homospanies and experimented with X-ray diffraction method and used refinment resolution 1.0 - 1.5 A and referred latest uptdated paper related to the disease . By our analysis the structure for disease (FIG . 2) (PDB ID . 6OD4) . To test the quality of the structure we performed two tests

Type your introduct

Test 1: R -FREE - R - WORK : Apporixmately the value of the test should be >OR = 5% . our experimental result is 4.5% .

TEST 2: RESOLUTION / 10 : The value for this test is 0.022 (0.2%)

based on this two tests we have conformed the quality of the structure is good .

For further secondary structure analysis (alpha helices , beta helices and hydrogen bonding) we have been use PyMOL software..

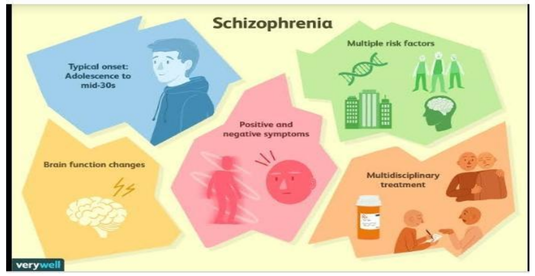

FIGURE.1 SYMPTOMS FOR PEOPLE EFFECTED WITH SCHIZOPHRENIA

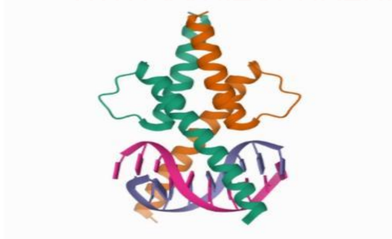

FIGURE.2 : The 3 - dimensional structure of Human Transcription factor -4 to DNA containing 5 - carboxy cytosine

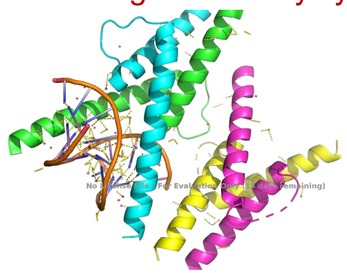

FIGURE.3: THE ATTACHMENT OF HYDROGEN BOND TO PROTEIN STRUCTURE

RESULTS & DISCUSSION

The structure of Human TCF-4 (PDB I,D :6OD4) Contain 4 alpha helices and there are no beta helices in this protein structure and this structure also have a presence of DNA . There are totally 38 Hydrogen bonds (FIGURE.3) and 41 water molecules are present in this structure .The macromolecule is Transcription factor - 4 ,and the sequence length of this molecules is 62 and it has A,B,G,H chains ,It also consist of small molecules (lignads) I.D : EDO . There are no mutation present in this protein structure .

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