Nov 09, 2022

Assessment of TNF-alpha and BDNF

DOI
https://dx.doi.org/10.17504/protocols.io.14egn224mg5d/v1

hananagm[1]

[1]Delat University for science and technology

hananagm

DOI: https://dx.doi.org/10.17504/protocols.io.14egn224mg5d/v1

Protocol Citation: hananagm 2022. Assessment of TNF-alpha and BDNF. **protocols.io** https://dx.doi.org/10.17504/protocols.io.14egn224mg5d/v1

Protocol status: Working
We use this protocol and it's working

Created: November 02, 2022

Last Modified: November 09, 2022

Protocol Integer ID: 72227

Keywords: neurotrophic factor, derived neurotrophic factor, cerebral palsy, prevention of cp, bdnf level, treatment target for cp, common motor disability in children, tnf level, tumor necrosis factor, correlation of bdnf, dyskinesia cp, positive correlation between bdnf, children with cp, common motor disability, reactive protein, concentrations of complete blood count, complete blood count, main types of cp, different groups of cp, tnf, spastic cp

Abstract

Abstract

Background: Cerebral palsy (CP) is the most common motor disability in children, which is instigated by damage to the developing brain that affects the ability to control the muscles. The main types of CP are spastic CP, dyskinesia CP and mixed CP. The aim of this work was to estimate the concentrations of complete blood count (CBC), erythrocytic sedimentation rate (ESR), C-reactive protein (CRP), brain-derived neurotrophic factor (BDNF), and tumor necrosis factor-α (TNF-α) in children with CP compared to the control group.

Methods: A total of 75 Egyptian children were enrolled in this study, 45 had CP and 30 were controls. CBC, ESR, CRP, BDNF, and TNF-α were assessed.

Results: The ESR, CRP and TNF-α levels showed statistically significant increases in cases compared with controls. While the neutrophil/lymphocyte ratio and the BDNF levels were significantly lower in CP compared with the controls. When comparing the different groups of CP with each other; there were no significant differences. Regarding the correlation of BDNF and different studied parameters, our study showed a positive correlation between BDNF and TNF levels only within the group with spastic CP.

Conclusions: BDNF may be considered as a biomarker or treatment target for CP to avoid further complications as still there is insufficient progress in the prediction, early diagnosis, treatment, and prevention of CP. Furthermore, searching for novel strategies to increase BDNF levels may open a new opportunity for the treatment of CP.

Assessment of TNF-alpha and BDNF

1 Catalog No ab181421 (**www.abcam.com/ab181421** , **BDNF** ab212166 **www.abcam.com/ab212166**)

First separate the serum

2 store samples in low degree properly -10 c

Antibody Cocktail

3 300 ul of l HumanCapture Antibody + 300 ul of Detector Antibody + with 2.4 mL Antibody Diluent

standard curve

4 serially diluted standards immediately
fresh set of positive controls for every use.
some was repeated in the well to check the accuracy

4.1 some was repeated in the well to check the accuracy

EIISA Steps

5 Add 50 µL of all sample or standard to appropriate wells.

6 Add 50 µL of the Antibody Cocktail to each well.

7 The plate was sealed and incubated for 1 hour at room temperature on a plate shaker set to 400 rpm

8 Wash each well with 3 × 350 µL Wash Buffer. Wash by aspirating or decanting from wells then dispensing 350 µL 1X Wash Buffer into each well. Complete removal of liquid at each step is essential for good performance. After the last wash invert the plate and blot it against clean paper towels to remove excess liquid

9 Add 100 µL of TMB Development Solution to each well and incubate for 10 minutes in the dark on a plate shaker set to 400 rpm

10 ADD 100 ul of stop solution to each well. shake plate on plate shaker for 1 min .

11 . Read the OD at 450 nm