

Passage 1

Scientists have examined a protein that enables people to modify their behavior to adjust to slightly changed experiences. When circumstances change and our usual route is blocked, our stored memories work no longer, and we must find alternative solutions. Behavioral flexibility is partially driven by protein synthesis, which produces changes in neural function. The researchers investigated the issue by focusing on PERK, an enzyme that regulates protein synthesis and modifies eIF2alpha required for proper protein synthesis.

The researchers conditioned both normal mice and mice without PERK, which heard an audible tone followed by a foot shock. Both groups froze out of fear when hearing the tone, anticipating the shock. The team then removed the shock from the procedure so that the mice only heard the tone. They observed that the normal mice did not freeze after hearing the tone anymore, whilst the mice lacking PERK continued to freeze. The team also conducted postmortem analyses of human brain samples from both schizophrenic and healthy individuals. They discovered that the healthy individuals' samples had normal levels of PERK, whilst those from schizophrenic patients had less protein. The author noted, "a list of neurological and neurodegenerative diseases, including Alzheimer's, Parkinson's, and Fragile X syndrome, have already been linked to aberrant protein synthesis. Results show the significance of PERK in maintaining behavioral flexibility and how its absence might be associated with schizophrenia."

136 . According to the text, some samples of the study came from people suffering from

- a. Fragile X b. Parkinson's c. Alzheimer's d. Schizophrenia

137 . The mentioned study focused on a protein that enables people to manifest

- a. new behaviors in face of old experiences
b. new behaviors in face of new experiences
c. habitual behaviors when dealing with learned routes
d. habitual behaviors when dealing with changed routes

138 . This study showed that

- a. eIF2alpha is modified to produce PERK
b. behavior flexibility is caused by a lack of PERK
c. neurodegenerative patients suffer from a lack of eIF2alpha
d. atypical protein synthesis is linked to behavior inflexibility

139 . In the first experiment, the mice without PERK could not

- a. predict the foot shock after hearing the audible tone
b. get conditioned due to a lack of the required enzyme
c. give up the fear response even in the absence of the conditioning stimulus
d. learn to associate the audible tone and the scary foot shock in the first place

140 . The study focused on

- a. living mice, dead schizophrenic patients and living normal people
b. living and dead mice, dead schizophrenic patients and living normal people
c. living mice, dead schizophrenic patients and dead normal people
d. living and dead mice, dead schizophrenic patients and dead normal people