Unlock Your Brain's Age with 13 Blood Proteins

Description

Scientists trained a computer to guess people's ages from their brain scans.

A blood test could help track brain health by checking 13 proteins.

About 11,000 adults had brain scans studied by researchers from China.

The computer predicted their ages accurately within 2.7 years based on brain features.

A group of 4700 people also had their brain ages guessed by the computer.

These people gave blood samples, and researchers found 8 proteins linked to faster brain ageing and 5 linked to slower ageing.

The proteins are made by brain cells and may affect dementia and stroke risk.

These proteins could be used in blood tests to show how fast the brain is ageing.

Researchers want to see if lifestyle changes can alter these protein levels.

Further research on different populations is needed to confirm the results.

The researchers plan to study how these proteins impact the brain in animals.

Topics:

Vocabulary List:

1. **Dementia** /dɪˈmen.ʃə/ (noun): A chronic or progressive disorder of the mental processes caused by brain disease or injury.
2. **Proteins** /ˈproʊ.tiːnz/ (noun): Large molecules composed of amino acids essential for the structure function and regulation of the body's cells.
3. **Ageing** /ˈeɪ.dʒɪŋ/ (verb/adjective): The process of growing old or showing the effects of increasing age.
4. **Scans** /skænz/ (noun): A series of images or studies produced especially in medical contexts with imaging devices.
5. **Researchers** /rɪˈsɜːr.tʃərz/ (noun): Individuals who conduct academic or scientific studies and inquiries to discover new information.
6. **Health** /hɛlθ/ (noun): The state of being free from illness or injury; overall condition of a person's body or mind.

Comprehension Questions

Multiple Choice

1. What method did scientists use to guess people's ages?

   Option: Blood test
   Option: Brain scans
   Option: Physical examination
   Option: Survey questionnaires

2. How many proteins are checked in the blood test to track brain health?

   Option: 8 proteins
   Option: 13 proteins
   Option: 5 proteins
   Option: 20 proteins

3. How accurately did the computer predict people's ages based on brain features?

   Option: Within 1 year
   Option: Within 2.7 years
   Option: Within 5 years
   Option: Within 10 years

4. How many proteins were found to be linked to faster brain ageing?

   Option: 5 proteins
   Option: 8 proteins
   Option: 2 proteins
   Option: 10 proteins

5. How many proteins were found to be linked to slower brain ageing?

   Option: 3 proteins
   Option: 5 proteins
   Option: 7 proteins
   Option: 10 proteins

6. What do the proteins made by brain cells potentially affect?

   Option: Mood

Option: Bone health
Option: Dementia and stroke risk
Option: Muscle growth

True-False

7. The proteins linked to brain ageing are not made by brain cells.

8. A blood test can be used to show how fast the brain is ageing.

9. The researchers found 10 proteins linked to faster brain ageing.

10. Lifestyle changes have no impact on altering protein levels linked to brain ageing.

11. Further research is unnecessary to confirm the results obtained on different populations.

12. The researchers plan to study the impact of these proteins on the brain in humans only.

Gap-Fill

13. A group of 4700 people had their brain ages guessed by the computer, and these people gave blood

samples, leading to the discovery of 8 proteins linked to faster brain ageing and 5 linked to slower ageing.

The proteins are made by brain cells and may affect dementia and stroke risk. These proteins could be used

in blood tests to show how fast the brain is ageing. Researchers want to see if lifestyle changes can alter

these protein levels. Further research on different populations is needed to confirm the results. The

researchers plan to study how these proteins impact the brain in _____ .

14. The computer predicted the ages of the 11,000 adults accurately within _____

based on brain features.

16. The computer predicted the ages of the 4700 individuals within a margin of _____

based on brain features.

17. The blood test could help track brain health by examining _____ proteins.

18. Researchers found 8 proteins linked to _____ brain ageing and 5 linked to slower

ageing.

Answer

Multiple Choice: 1. Brain scans 2. 13 proteins 3. Within 2.7 years 4. 8 proteins 5. 5 proteins 6. Dementia and stroke risk
True-False: 7. False 8. True 9. False 10. False 11. False 12. False
Gap-Fill: 13. animals 14. 2.7 years 17. 13 18. faster

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. What are the rules and guidelines set by authorities called?

   Option: Laws
   Option: Suggestions
   Option: Preferences
   Option: Technology

2. What is the income generated by a company called?

   Option: Dementia
   Option: Proteins
   Option: Revenue
   Option: Ageing

3. Who conducts scientific investigations to advance knowledge?

   Option: Health
   Option: Hailstones
   Option: Damage
   Option: Researchers

4. What medical procedure creates images of the body?

   Option: Predict
   Option: Casualties
   Option: Unique
   Option: Scans

5. Which term refers to one's liking or favoring of something?

   Option: Forecast
   Option: Artificial intelligence
   Option: Suggestions
   Option: Preference

6. What is a large rocky body that orbits the sun known as?

   Option: Technology
   Option: Asteroid
   Option: Harmlessly
   Option: Detection

7. What action is taken to move people out of a dangerous area?

   Option: Fragment
   Option: Orbit
   Option: Evacuate
   Option: Negotiations

8. What motivates or encourages someone to do something?

   Option: Damage
   Option: Incentive
   Option: Uniqueness
   Option: Inspiration

9. Which term refers to the overall well-being of a person?

   Option: Preferences
   Option: Technology
   Option: Health
   Option: Artificial intelligence

10. What is the process of discovering or identifying something?

   Option: Detection
   Option: Harmlessly
   Option: Regulations
   Option: Unique

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. The tsunami caused extensive _____ to the coastal areas.

12. Meteorologists use advanced technology to predict the weather _____.

13. The diplomats are engaging in peace _____ to resolve the conflict.

14. The war resulted in a high number of _____ among both soldiers and civilians.

15. Watching the sunrise over the mountains filled him with a sense of _____ and awe.

16. The government is working on establishing a new legal _____ for environmental

protection.

17. Many industries are exploring the potential of _____ to streamline processes and

enhance productivity.

18. Each snowflake is _____ in its shape and structure.

19. As individuals age the risk of developing _____ increases.

20. A balanced diet should include sources of essential _____ for overall health.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. The process of growing old and the changes associated with it.
22. To predict or estimate a future event or trend.
23. Being the only one of its kind; unlike anything else.
24. Frozen raindrops that fall as pellets of ice during a thunderstorm.
25. To make an educated guess or projection about a future occurrence.
26. The application of scientific knowledge for practical purposes especially in industry.

| 27. A small piece or part that has broken off from something larger. |
| 28. The path followed by a celestial body around a star planet or moon. |
| 29. Ideas or recommendations offered for consideration or action. |
| 30. To remove people from a dangerous or hazardous place. |

Answer

Multiple Choice: 1. Regulations 2. Revenue 3. Researchers 4. Scans 5. Preference 6. Asteroid 7. Evacuate 8. Incentive 9. Health 10. Detection

Gap-Fill: 11. damage 12. forecast 13. negotiations 14. casualties 15. inspiration 16. framework 17. artificial intelligence 18. unique 19. dementia 20. proteins

Matching sentence: 1. Ageing 2. Forecast 3. Unique 4. Hailstones 5. Predict 6. Technology 7. Fragment 8. Orbit 9. Suggestions 10. Evacuate

CATEGORY

1. Sci/Tech - LEVEL2

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