



## Esercitazione per la prova di idoneità linguistica INGLESE B2 AREA SCIENTIFICA

**Informazione:** questa esercitazione non è una simulazione della prova ma serve solamente a dare un'idea della tipologia di esercizi della sezione di 'reading comprehension'.

### PART 1: Reading Comprehension.

A hormone that extends lifespan in mice by 40% is produced by specialized cells in the thymus gland, according to a new study by Yale School of Medicine researchers. The team also found that increasing the levels of this hormone, called FGF21, protects against the loss of immune function **that** comes with age.

Published online in the *Proceedings of the National Academy of Sciences* on Jan. 11, the study's findings have future implications for improving immune function in the elderly, for obesity, and for illnesses such as cancer and type-2 diabetes.

When functioning normally, the thymus produces new T cells for the immune system, but with age, the thymus becomes fatty and loses **its** ability to produce new T cells. This loss of new T cells in the body is one cause of increased risk of infections and certain cancers in the elderly.

Led by Vishwa Deep Dixit, professor of comparative medicine and immunobiology at Yale School of Medicine, the researchers studied transgenic mice with elevated levels of FGF21.

The team knocked out the gene's function and studied the impact of decreasing levels of FGF21 on the immune system. **They** found that increasing the levels of FGF21 in old mice protected the thymus from age-related fatty degeneration and increased the ability of the thymus to produce new T cells, while FGF21 deficiency accelerated the degeneration of the thymus in old mice.

"We found that FGF21 levels in thymic epithelial cells is several fold higher than in the liver - - therefore FGF21 acts within the thymus to promote T cell production," said Dixit.

"Elevating the levels of FGF21 in the elderly or in cancer patients **who** undergo bone marrow transplantation may be an additional strategy to increase T cell production, and thus bolster immune function," said Dixit.

Dixit added that FGF21 is produced in the liver as an endocrine hormone. Its levels increase when calories are restricted to allow fats to be burned when glucose levels are low. FGF21 is a metabolic hormone that improves insulin sensitivity and also induces weight loss; therefore **it** is being studied for its therapeutic effects in type-2 diabetes and obesity.

**Read the article and tick (✓) A, B, or C.**

1. According to a study by Yale School of Medicine researchers, a hormone that extends lifespan in mice by 40% is produced by specialized cells in the kidneys.

- A True                       B False                       C Doesn't say

2. The Yale School of Medicine researchers also found that reducing the levels of FGF21 protects against the loss of immune function that comes with age.

- A True                       B False                       C Doesn't say

3. The Yale study's findings have future implications for improving immune function in the elderly, for obesity, and for illnesses such as cancer and type-2 diabetes.

- A True                       B False                       C Doesn't say

4. With age, the thymus becomes fatty and produces more new T cells.

- A True                       B False                       C Doesn't say

5. One of the reasons why the elderly are at increased risk of infections and certain cancers is the loss of new T cells in the body.

- A True                       B False                       C Doesn't say

6. The researchers, led by Vishwa Deep Dixit, studied transgenic mice with low levels of FGF21.

- A True                       B False                       C Doesn't say

7. It was found that decreasing the levels of FGF21 in old mice protected the thymus from age-related fatty degeneration and increased the ability of the thymus to produce new T cells, while FGF21 deficiency slowed the degeneration of the thymus in old mice.

- A True                       B False                       C Doesn't say

8. Vishwa Deep Dixit has worked at the Yale School of Medicine for over a decade.

- A True                       B False                       C Doesn't say

9. FGF21 levels increase when calories are restricted to allow fats to be burned when glucose levels are low.

- A True                       B False                       C Doesn't say

**Match the underlined words or expressions in the text to the word or expression with a similar meaning below.**

10. \_\_\_\_\_ = whereas

11. \_\_\_\_\_ = therefore

12. \_\_\_\_\_ = increases

13. \_\_\_\_\_ = enable

14. \_\_\_\_\_ = could

15. \_\_\_\_\_ = for example

**What do these words refer to? Choose (a), (b), or (c).**

16. that (*line 4*)

(a) the team

(b) FGF21

(c) the loss of immune function

17. its (line 9)

(a) the thymus

(b) new T cells

(c) the immune system

18. They (line 15)

(a) The team

(b) the gene's function

(c) old mice

19. who (line 21)

(a) the elderly

(b) cancer patients

(c) Dixit

20. it (line 27)

(a) FGF21

(b) obesity

(c) weight loss

## PART 2a

Complete each sentence with the correct expression.

1. There is \_\_\_\_\_ to support the hypothesis.

a) Few evidences

b) little evidence

c) few evidence

2. We used a new method \_\_\_\_\_ the subjects' overall fitness.

a) to assess

b) for to assess

c) in order for assessing

3. The method enabled \_\_\_\_\_ more accurate measurements.

a) us make

b) us making

c) us to make

4. This protocol induced \_\_\_\_\_ accumulation in all the subjects.

a) carbohydrates

b) carbohydrate

c) the carbohydrate

5. A new indoor facility allowed \_\_\_\_\_ through the winter months.

a) us to train

b) us training

c) to train

6. The physical therapist advised \_\_\_\_\_ more stretching exercises.

a) that I do

b) me doing

c) me to do

7. Patients are unlikely \_\_\_\_\_ to the therapy immediately.

a) to respond

b) responding

c) respond

8. Obesity correlates \_\_\_\_\_ several diseases.

a) with

b) to

c) of

9. She \_\_\_\_\_ very intelligent. She was the top student in her graduating class.

a) can't be

b) must be

c) must to be

10. I need \_\_\_\_\_ on the application process.

a) some informations

b) some information

c) any informations

Complete each sentence with the appropriate **transition signal**.

11. People tend to put on weight in middle age; \_\_\_\_\_, gaining weight is not inevitable.  
a) however                      b) because                      c) therefore
12. We were able to process all the data in a very short time \_\_\_\_\_ we had a whole team of researchers working on the project.  
a) because of                      b) because                      c) although
13. Maria has excellent qualifications and a lot of experience in the field. \_\_\_\_\_, she is a very hard worker.  
a) Therefore                      b) In addition                      c) Nevertheless
14. The patients suffered some rather severe side effects; \_\_\_\_\_, the medical committee decided to suspend the therapy.  
a) despite                      b) in addition                      c) therefore
15. \_\_\_\_\_ the considerable risks, she decided to participate in the clinical trial.  
a) Because of                      b) Although                      c) Despite
16. Some villages had to be evacuated \_\_\_\_\_ the volcanic activity.  
a) hence                      b) because                      c) because of

## **PART 2b**

### **Present Simple and Present Continuous**

Complete the sentences with the correct form of the verbs in brackets.

1. He always .....(sleep) late on Sunday mornings.
2. 'Where's Debbie?'  
'She's in her room. She..... (listen) to music.'
3. Please don't make so much noise. I ..... (try) to work.
4. I..... (want) to order something else. I'm still hungry.
5. What ..... (you/do) next summer?

### **Past Simple / Present Perfect Simple**

Complete the sentences with the correct form of the verbs in brackets.

6. Where..... (you/spend) your holiday last summer?
7. I can't take any pictures because I..... (not/buy) a camera yet.
8. ....(you/ever/see) a whale?
9. Our cousins ..... (arrive) late last night.
10. We..... (know) Katy and Pete since we were kids, and we're still close friends.

Complete with the **Past Continuous** , **Past Simple** or **Past Perfect**.

**11./12.** When we ..... (arrive) at the theater, the show .....  
(already/start) and we weren't allowed to enter until the intermission.

**13./14.** It ..... (rain) hard when we .....  
(leave) the pub.

**15./16.** I ..... (break) my arm while I .....  
(play) football.

Complete the sentences with **will**, **going to** or **the present continuous**.

**17.** Bye for now. Perhaps I .....(see) you later.

**18.** We already have plans for the weekend. We .....(visit) some relatives In  
New York.

**19.** Look at those black clouds! It ..... (rain).

**20.** Those bags look very heavy. I..... (help) you carry them to the  
car.

**Relative Clauses** Complete the sentences with a relative pronoun: **who**, **which**, **where**, **whose**,  
**that**.

**21.** My brother Dave, ..... is a lawyer, is going to help us in the negotiations.

**22.** The pizza ..... we ordered wasn't very good.

**23.** The Boeing 747, ..... is one of the largest commercial airplanes, has an excellent  
safety record.

**24.** I recently went back to the town ..... I grew up.

**25.** ..... notebook is this? It's not mine.

**Comparatives and Superlatives**

Complete the following sentences using a suitable form of the adjectives in brackets. Add **than**, **the**  
or **as** if necessary.

**26.** This is ..... (good) restaurant in town.

**27.** My new job is ..... (stressful) my old one.

**28.** This is .....(relaxing) holiday I've ever had!

**29.** She's much .....(talkative) her sister.

**30.** The movie wasn't as .....(scary) we expected.

**Articles**

Complete the sentences with **a/an**, **the**, or - (no article).

**31.** They say that .....love makes the world go around.

32. Her father is ..... pilot.
33. They are currently doing research on .....stem cells.
34. I forgot to lock ..... front door when I left the house this morning.
35. The diet can help reduce the incidence of ..... diabetes.

Complete the sentences with the **-ing form** or **infinitive** of the verbs in brackets.

36. Would you mind ..... (help) me with the dishes?
37. I'm thinking of ..... (take) a year off before starting university.
38. She went to Ireland ..... (improve) her English.
39. .... (eat) too much red meat is very unhealthy.
40. It's important ..... (get) plenty of sleep.

Complete the **conditional** sentences with the right verb form.

41. If I ..... (have) more time, I'd learn another language.
42. We ..... (help) you if we had been there.
43. If we..... (miss) the bus, we'll take a taxi.
44. If I had known you were in hospital, I .....(go) to visit you.
45. If I ..... (know) his number, I would phone him.
46. If I ..... (find) a wallet in the street, I'd take it to the police.

Rewrite the sentences in the **Passive Voice**. Maintain the same verb tense as the active sentence.

**Example:**

*Van Gogh painted this picture of sunflowers.*

*This picture of sunflowers was painted by Van Gogh.*

47. They are repairing the damaged bridge.

The damaged bridge .....

48. You must make the final payment by the end of the month.

The final payment .....

49. They have changed the exam format.

The exam format .....

50. They destroyed most of the city.

Most of the city .....

51. They make car parts in this factory.

Car parts .....

Change the following statements into **reported speech**.

52. 'I've quit my job.' John said .....
53. 'I can't come to the meeting this afternoon.' She said .....
54. 'We're going away for a few days.' They said .....
55. 'Where do you live?' They asked us .....
56. 'Do you like dancing?' She asked me .....