



# RNA Unveiled as Potent Cancer Fighter

## Description

### Cancer Cells Illustration

Researchers from the University of Chicago have uncovered a new role for RNA in how DNA is packaged, shed light on TET2-related mutations linked to cancer. This revelation offers innovative targets for drug therapies and implies a broader role for RNA in gene expression regulation.

## RNA plays an increasingly significant role in human gene expression.

Within each nucleus of every cell, a complex process crucial for survival unfolds. Proteins constantly wrap and unwrap DNA. The slightest misstep in this intricate orchestration can lead to cancer.

A groundbreaking study from the University of Chicago unveils a previously undisclosed aspect of this process with significant implications for human well-being.

Published in *Nature* on Oct. 2, the study by a team led by UChicago's Prof. Chuan He and Prof. Mingjiang Xu from the University of Texas Health Science Center in San Antonio reveals how RNA's involvement in DNA packaging through the *TET2* gene sheds light on the enigma of *TET2*-related mutations in cancer and offers new avenues for therapeutic interventions.

## Vocabulary List:

1. **RNA** /'ɑ:r,ɛn,eɪ/ (noun): A polymeric molecule essential in coding decoding regulation and expression of genes.
2. **DNA** /,di:,ɛn'eɪ/ (noun): The hereditary material in almost all organisms that carries genetic instructions.
3. **Mutations** /mju:'teɪʃənz/ (noun): Changes in the DNA sequence that can lead to variations in organisms.
4. **Therapeutic** /,θerə'pjʊ:tɪk/ (adjective): Related to the healing of disease or the treatment of medical conditions.
5. **Implications** /,ɪmplɪ'keɪʃənz/ (noun): Consequences or effects that may occur as a result of an action or decision.
6. **Orchestration** /,ɔ:rkɪ'streɪʃən/ (noun): The arrangement or coordination of elements to achieve a desired outcome.

## Vocabulary quizzes

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

1. Who directed the movie "Inception"?

Option: Christopher Nolan



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- Option: Steven Spielberg  
Option: Quentin Tarantino  
Option: Martin Scorsese
2. Which medical condition is characterized by a decline in cognitive abilities?  
Option: Dementia  
Option: Diabetes  
Option: Hypertension  
Option: Arthritis
3. Which molecule is responsible for transferring genetic information from the nucleus to the cytoplasm?  
Option: DNA  
Option: RNA  
Option: Protein  
Option: Carbohydrate
4. What term refers to the enforcement of rules or laws in a system?  
Option: Adaptation  
Option: Regulation  
Option: Innovation  
Option: Delegation
5. What is the significance of emphasizing the role of education?  
Option: Insignificance  
Option: Unimportance  
Option: Importance  
Option: Irrelevance
6. What is the process of moving people or goods from one place to another called?  
Option: Communication  
Option: Transportation  
Option: Acquisition  
Option: Transfer
7. What term describes a mutual relationship or connection between two or more things?  
Option: Isolation  
Option: Segregation  
Option: Correlation  
Option: Disintegration
8. Which term refers to changes in DNA that can lead to variations in traits?  
Option: Stabilization  
Option: Mutations



Option: Standardization

Option: Normalizations

9. Which term is used to measure or quantify a particular attribute or phenomenon?

Option: Subjective

Option: Qualitative

Option: Quantitative

Option: Metric

10. What process involves conducting trials or tests to explore new ideas or hypotheses?

Option: Imitating

Option: Experimenting

Option: Stagnating

Option: Conforming

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

11. Individuals with weakened immune systems are more \_\_\_\_\_ to infections.

12. The new software features \_\_\_\_\_ security measures to protect user data.

13. The \_\_\_\_\_ of the event required meticulous planning and coordination.

14. Antibiotics are commonly used to treat bacterial \_\_\_\_\_.

15. The engine is a crucial \_\_\_\_\_ of a car that powers its movement.

16. The company aims to \_\_\_\_\_ its position in the market through strategic acquisitions.

17. The new design will focus on \_\_\_\_\_ user feedback to improve functionality.

18. The first phase of the project was successful and the \_\_\_\_\_ stages will commence next month.

19. Regular exercise is \_\_\_\_\_ for maintaining a healthy lifestyle.

20. Effective time management involves \_\_\_\_\_ tasks based on their importance and urgency.



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

|                                                                                          |
|------------------------------------------------------------------------------------------|
| 21. Emergency services arrived at the scene to provide immediate assistance.             |
| 22. The study focused on how memory and perception are related to brain function.        |
| 23. The research explored how DNA influences hereditary traits.                          |
| 24. The report highlighted a sudden increase in reported cases of the disease.           |
| 25. The new treatment methods aimed to provide relief and promote healing.               |
| 26. Doctors advised taking preventive measures to avoid potential risks.                 |
| 27. The research team works together to share expertise and achieve common goals.        |
| 28. The bulge in the wall indicated a possible structural weakness.                      |
| 29. The company aims to strengthen its position by integrating resources and strategies. |
| 30. The dance performance required precise coordination of movements and music.          |

**Answer**

**Multiple Choice:** 1. Christopher Nolan 2. Dementia 3. RNA 4. Regulation 5. Importance 6. Transportation 7. Correlation 8. Mutations 9. Metric 10. Experimenting

**Gap-Fill:** 11. susceptible 12. enhanced 13. orchestration 14. infections 15. component 16. consolidate 17. incorporating 18. subsequent 19. vital 20. prioritizing

**Matching sentence:** 1. Intervention 2. Cognitive 3. Genetics 4. Incidence 5. Therapeutic 6. Precautions 7. Collaborates 8. Protrusion 9. Consolidate 10. Orchestration

**CATEGORY**

1. Health - LEVEL4

**Date Created**

2024/10/07

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