



Natural Compound in Pomegranate Leaves Targets Amyloid Clumps

Description

Researchers at Kumamoto University found a natural compound from pomegranate leaves and branches. This compound can break apart protein clumps that cause transthyretin amyloidosis. This illness can harm the nerves and heart.

Pomegranate trees are famous for their fruit. The researchers focused on different parts of the tree for new medicine. They named the important compound 1,2,3,4,6-penta-O-galloyl- β -D-glucose (PGG). In TTR amyloidosis, a protein called transthyretin can change shape and form harmful clumps in the body.

The team tested 1,509 plant extracts. Pomegranate extracts stood out because they broke down these clumps. They identified PGG as the active ingredient.

In lab tests, PGG broke apart amyloid fibrils from both normal and mutant forms of the protein. It did not affect other harmful protein types related to Alzheimer's disease. The researchers also tested PGG on worms with human TTR and saw positive results for health and lifespan.

Further studies are needed to check the safety and effectiveness of PGG in humans. It may help treat transthyretin amyloidosis in the future.

Vocabulary List:

1. **Compound** /'kɒm.paʊnd/ (noun): A substance made of two or more parts.
2. **Extract** /'ɛk.strækt/ (noun): A substance taken from a plant.
3. **Amyloidosis** /,æm.i.lɔɪ'dəʊ.sɪs/ (noun): A disease caused by protein buildup.
4. **Fibrils** /'faɪ.brɪlz/ (noun): Thin strands of protein in the body.
5. **Transthyretin** /træns'thaɪərɪtɪn/ (noun): A protein that can form clumps.
6. **Clumps** /klʌmps/ (noun): Groups of stuck-together proteins.

Comprehension Questions

Answer

Vocabulary quizzes



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

1. What type of cancer is primarily characterized by uncontrolled cell growth?
Option: Carcinoma
Option: Melanoma
Option: Leukemia
Option: Lymphoma
2. Which type of skin cancer specifically arises from melanocytes?
Option: Basal cell carcinoma
Option: Melanoma
Option: Squamous cell carcinoma
Option: Adenocarcinoma
3. What is the primary method used to identify the presence of cancer?
Option: Detection
Option: Prevention
Option: Treatment
Option: Diagnosis
4. What term is used to describe the continuation of life after a cancer diagnosis?
Option: Cure
Option: Recovery
Option: Survival
Option: Mortality
5. What is the term for the process by which cancer cells move from one part of the body to another?
Option: Proliferation
Option: Metastasis
Option: Invasion
Option: Tumorigenesis
6. What is the term for managing cancer symptoms through various methods?
Option: Detected
Option: Treated
Option: Survived
Option: Prevented
7. What are segments of DNA that influence traits, including the risk for cancer?
Option: Chromosomes
Option: Genes
Option: Alleles



Option: Genomes

8. What medical procedures are often performed to remove cancerous tissue?

Option: Therapies

Option: Surgeries

Option: Medications

Option: Tests

9. What is the name of the cancer treatment that uses drugs to kill cancer cells?

Option: Radiation

Option: Surgery

Option: Chemotherapy

Option: Immunotherapy

10. Which hormone is produced by the pineal gland and has roles in regulating sleep and potentially influencing cancer?

Option: Serotonin

Option: Cortisol

Option: Melatonin

Option: Adrenaline

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

11. The early _____ of cancer significantly improves treatment outcomes.

12. Factors such as stage at diagnosis affect cancer _____ rates.

13. The _____ of cancer cells to other organs is known as metastasis.

14. Cancer can be _____ using a combination of surgery, radiation, and chemotherapy.

15. Mutations in specific _____ can lead to an increased risk for certain cancers.

16. Many cancer patients undergo _____ to remove tumors and affected tissues.

17. Research suggests that _____ may play a role in cancer prevention.

18. Patients often receive _____ to eliminate cancer cells after surgery.

19. Chronic _____ has been linked to the development of certain cancers.



20. Certain herbal _____ have been researched for their potential anti-cancer properties.

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

21. Carcinoma is the most common type of cancer that develops in epithelial tissue.
22. Melanoma is a serious type of skin cancer that can spread to other parts of the body.
23. Survival rates for cancer can vary significantly depending on the type and stage of cancer.
24. Inflammation is a natural process that can sometimes contribute to cancer progression.
25. Chemotherapy is often used to treat cancer by targeting rapidly dividing cells.
26. Hormones such as estrogen can influence the growth of certain cancers.
27. Researchers are continually studying new treatments to improve cancer outcomes.
28. Surgeries are performed to remove tumors and affected areas in cancer patients.
29. Mutations in specific genes can increase an individual's risk for developing cancer.
30. Certain dietary supplements are being investigated for their potential role in cancer prevention.

Answer

Multiple Choice: 1. Carcinoma 2. Melanoma 3. Detection 4. Survival 5. Metastasis 6. Treated 7. Genes 8. Surgeries 9. Chemotherapy 10. Melatonin

Gap-Fill: 11. detection 12. survival 13. spread 14. treated 15. genes 16. surgeries 17. melatonin 18. chemotherapy 19. inflammation 20. extracts

Matching sentence: 1. carcinoma 2. melanoma 3. survival 4. inflammation 5. chemotherapy 6. hormone 7. researchers 8. surgeries 9. gene 10. supplements

CATEGORY

- 1. Health - LEVEL1

POST TAG

- 1. amyloid
- 2. ESL learning
- 3. esl news
- 4. leaves



5. Level 1
6. natural compound
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