Module 3 - The Review Article

Language practice

Read the following review abstracts and answer the questions.

Abstract 1

Applications of nanomaterials for gastrointestinal tumors: A review

Nanotechnology is the emerging and advance field of research for the diagnosis and treatment of various diseases. With the development of nanotechnology, different nanoparticles are used in the treatment of cancer due to their unique optical properties, excellent biocompatibility, surface effects, and small size effects. Nanoparticles are the particles which have the particular size from 1 to 100 nm. These nanoparticles are zero dimension, one dimension, two dimension and three dimension etc. In present scenario a variety of research is focused on the tailored synthesis of nanoparticles for medicinal applications that can be used for cancer treatment based on the morphology, composition, interaction with target cell. The gastrointestinal (GI) tumors are found one of the deadest cancer types with highest reoccurrence rates. The diagnosis and treatment of gastrointestinal cancer is very challenging due to its deep location and complicated surgery. Nanotechnology provides fast diagnosis and immediate treatment for the gastrointestinal disease. A variety of nanomaterials are used for the diagnosis and treatment of GI disease. Nanoparticles target directly to the tumor cell as diagnostic and therapeutic tools facilitating the identification and removal of tumor cells. A number of nanoparticles are developed for the uses are quantum dots (QDs), carbon nanotubes (CNTs), metallic nanoparticles (MNPs), Dendrimers etc. This review article gives an overview of the most promising nanomaterials used for the diagnosis and treatment of GI diseases. This review attempts to incorporate numerous uses for the most current nanomaterials, which have great potential for treating gastrointestinal diseases.

Retrieved from: https://www.frontiersin.org/journals/medical-technology/articles/10.3389/fmedt.2022.997123/full

1. The topic of this review is: ……..
2. The underlying problem is: ……
3. The suggested solution is: ……
4. Why is this a viable solution?

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5. Underline the sentence in the text where the purpose of the review is stated. What verb have the authors used to signal this?

6. Rewrite the title of this review in Spanish.

7. In the sentence: *"different nanoparticles are used in the treatment of cancer due to their unique optical properties, excellent biocompatibility"* (lines 2-4), what does the expression ***due to*** indicate? What ideas are linked?

Abstract 2

Application of Transcriptomics for Predicting Protein Interaction Networks, Drug Targets and Drug Candidates

Protein interaction pathways and networks are critically-required for a vast range of biological processes. Improved discovery of candidate druggable proteins within specific cell, tissue and disease contexts will aid development of new treatments. Predicting protein interaction networks from gene expression data can provide valuable insights into normal and disease biology. For example, the resulting protein networks can be used to identify potentially druggable targets and drug candidates for testing in cell and animal disease models. The advent of whole-transcriptome expression profiling techniques—that catalogue protein-coding genes expressed within cells and tissues—has enabled development of individual algorithms for particular tasks. For example: (i) gene ontology algorithms that predict gene/protein subsets involved in related cell processes; (ii) algorithms that predict intracellular protein interaction pathways; and (iii) algorithms that correlate druggable protein targets with known drugs and/or drug candidates. This review examines approaches, advantages and disadvantages of existing gene expression, gene ontology, and protein network prediction algorithms. Using this framework, we examine current efforts to combine these algorithms into pipelines to enable identification of druggable targets, and associated known drugs, using gene expression datasets. In doing so, new opportunities are identified for development of powerful algorithm pipelines, suitable for wide use by non-bioinformaticians, that can predict protein interaction networks, druggable proteins, and related drugs from user gene expression datasets.

Retrieved from: https://www.frontiersin.org/journals/medical-technology/articles/10.3389/fmedt.2022.693148/full

1. The topic of this review is: …….

2. What is the relevance of studying this topic?

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3. Find an example in the text that illustrates such relevance.

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4. What purpose/s do the authors of this review pursue? Underline it/them in the text, isolating the verbs that signal such purpose/s.

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5. Write 3-5 key words that summarize key ideas in this abstract.

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6. Rewrite the title of the abstract in Spanish.

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Abstract 3

Interactions and Behaviors of Pedestrians with Autonomous Vehicles: A Synthesis

Integrating autonomous vehicles (AVs) into public roads presents profound implications for pedestrian safety and the broader acceptance of this emerging technology. This work examines the complex interactions between AVs and pedestrians, a dynamic influenced by the variability of pedestrian behaviors and the absence of traditional communication mechanisms, such as eye contact and gestures, commonly relied upon in human-driven scenarios. Given the nascent stage of AV deployment, this research addresses the challenges of evaluating AV−pedestrian interactions amid safety concerns and technological limitations. We review and synthesize global research on pedestrian behavior in the context of AV technology to track changes in pedestrians' acceptance over time and identify the factors driving these shifts. Additionally, this review incorporates insights from transportation authorities to highlight potential safety issues and the need for innovative communication strategies that ensure safe interactions between pedestrians and AVs. By analyzing these factors, the research aims to contribute to the development of guidelines and communication protocols that enhance pedestrian safety and facilitate the integration of AVs into urban environments.

Retrieved from: https://www.mdpi.com/2673-7590/4/3/34

1. The topic of this review is: …….

2. The underlying problem is: ……

3. Underline the verbs in the text where the purpose/s of the review is/are stated. What tense has been used: present or past? Why?

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4. What future implications does this review have?

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5. Rewrite the title of this review in Spanish.

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6. In the sentence: *"*such as eye contact and gestures, commonly relied upon in human-driven scenarios.*"* (lines 4-5), the expression ***such as*** is used to show examples. What are those examples of?

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