# Article information:

Engineered hybrid cardiac patches with multifunctional electronics for online monitoring and regulation of tissue function | Nature Materials
<https://www.nature.com/articles/nmat4590>

# Article summary:

1. This article discusses the development of engineered hybrid cardiac patches with multifunctional electronics for online monitoring and regulation of tissue function.

2. The article reviews various nanotechnological strategies for engineering complex tissues, such as spring-like fibers, three-dimensional micropatterned collagen-chitosan hydrogels, and honeycombs.

3. It also explores the use of nanoelectronic scaffolds, electroactive polymers, substratum roughness and wettability, peptides and proteins, and chemokines to improve the efficacy of these cardiac patches.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy in its reporting on the development of engineered hybrid cardiac patches with multifunctional electronics for online monitoring and regulation of tissue function. The authors provide a comprehensive overview of the various nanotechnological strategies used to engineer complex tissues, such as spring-like fibers, three-dimensional micropatterned collagen-chitosan hydrogels, honeycombs, nanoelectronic scaffolds, electroactive polymers, substratum roughness and wettability, peptides and proteins, chemokines etc., which are all supported by relevant research studies. Furthermore, the authors discuss potential applications of these cardiac patches in improving systolic and diastolic functions in infarcted rat hearts as well as their potential use in controlling inflammation and angiogenesis through controlled expression of VEGF or dexamethasone release from conducting polymer polypyrrole coated electrodes.

The article does not appear to have any major biases or one-sided reporting; however there are some minor points that could be explored further such as possible risks associated with using these cardiac patches or unexplored counterarguments that could be considered when discussing their efficacy. Additionally, while the authors do mention potential applications for these cardiac patches in controlling inflammation or angiogenesis through controlled expression of VEGF or dexamethasone release from conducting polymer polypyrrole coated electrodes respectively; they do not provide any evidence to support this claim which could be addressed in future research studies.

# Topics for further research:

* Cardiac patch safety risks
* Cardiac patch efficacy studies
* Cardiac patch clinical trials
* Cardiac patch tissue engineering
* Cardiac patch nanotechnology
* Cardiac patch VEGF/dexamethasone release

# Report location:

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