

ECM Hydrogel Derived from Decellularized Adipose Tissue for Adipose Derived  
Stem Cell Differentiation to Augment Breast Reconstruction  
(Technical Report)

COVID-19 Vaccine Opposition in the United States:  
Pseudomedical Influencers and Antivaccine Astroturf Groups  
(STS Research Paper)

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by

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## Preface

The leading causes of death in the U.S. in 2020 include heart disease, cancers, and COVID-19, which together claimed an estimated 1.65 million lives<sup>1</sup>.

Breast tissue does not naturally regenerate post-mastectomy, and conventional breast reconstructive surgeries have limitations such as variable volume retention rate and infection. A human decellularized adipose tissue extracellular matrix hydrogel could support adipose-derived stem cell differentiation into mature adipocytes, providing controlled fat growth. This hydrogel has the potential to improve or even replace conventional fat grafting procedures, serving as a cosmetic filler to augment breast reconstruction post-mastectomy. The hydrogel has been verified through gelation observation, rheological mechanical characterization, and DNA quantification. Future research will be conducted using standard cell culture and mouse model protocols.

Especially since the outbreak of the coronavirus pandemic in 2020, individuals and organizations with claims to medical expertise have cultivated mass followings among Americans, using their influence to lend credibility to medical misinformation, thereby exacerbating distrust in consensus public health guidance. Such pseudomedical influencers have exploited their credentials to propagate misinformation about the COVID vaccine across digital platforms, expanding their audiences by appealing to common values such as safety and bodily autonomy. Influential figures fund antivaccine organizations that publicize ill-researched articles and videos, host rallies to inspire bandwagoning, and engage in litigation and lobbying to oppose vaccine mandates.

1. CDC (2022). U.S. Centers for Disease Control and Prevention. National Center Health Statistics. Deaths and Mortality. [www.cdc.gov/nchs/fastats/deaths.htm](http://www.cdc.gov/nchs/fastats/deaths.htm)