



# Antioxidant activity of egg derived peptides in heart cells

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## Summary

The study is designed to find out whether egg derived peptides have antioxidant activity in human cells and also suggesting an improved utilization of egg peptides to prevent the incidence of heart disease.

## Importance and Hypothesis

As per the Health Canada reports Cardiovascular disease or heart disease is the number one killer in Canada; and it is also the most costly disease in Canada. One of the major reasons for the heart disease is stress which in turn results in increased free radicals. New drugs are needed for the treatment of early heart failure, which might be a protective peptide with potent antioxidant activity.

## Objective:

To find out whether the egg derived peptides blocks the harmful enzymes thereby downstream harmful responses in heart and improves beneficial effects.

## Experimental design :

1) Separation of different peptides from the whole egg.



2) Human heart cell culture studies – Exposing cells from heart to disease provoking substances, followed by treatment with different egg peptide fractions.

3) Identify which peptide fraction have more cardiac protective functions and to produce them using suitable method from eggs.

## Anatomy of the heart

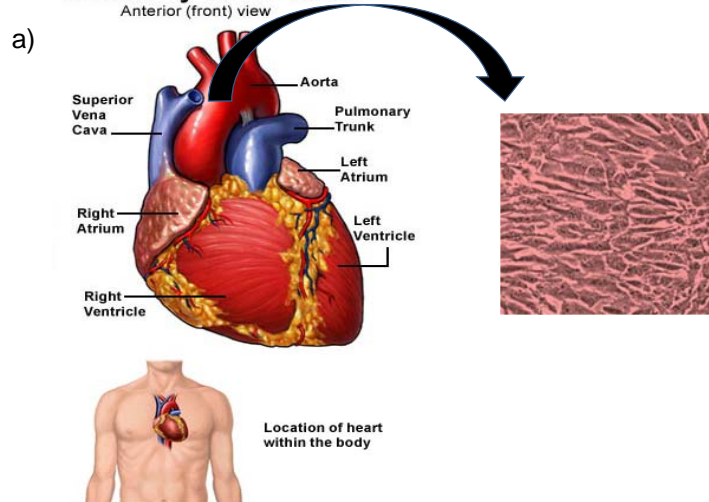


Fig.1. a) Anatomy of human heart  
b) Human aortic smooth muscle cells  
<http://www.heart1.com>

## Possible outcome:

This study includes an effort to figure out which peptide fraction is more effective in reducing heart disease and paves a way to produce those peptides on commercial level for the treatment of heart disease.

## Future research :

Ultimate aim of this research is to improve the potential use of eggs for pharmaceutical purpose, thereby improving the economic use of eggs.

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