Culprit of Deteriorating Heart Health:
Mutation in Cardiac Protein Troponin C

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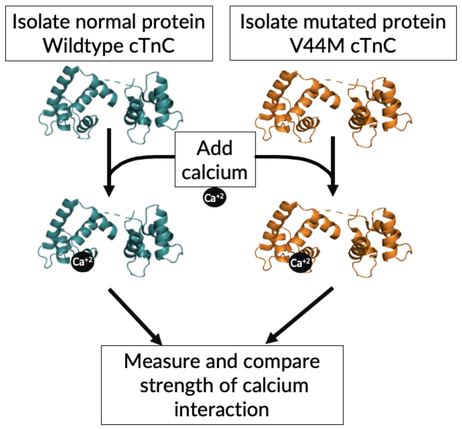
BACKGROUND:

- A cardiac protein, Troponin C (cTnC), binds to calcium causing heart to contract
- A newly found mutation in this protein, V44M cTnC, deteriorates heart health
- Mutations in cTnC alters strength of interaction with calcium
- Leads to abnormal heart contraction which deforms heart wall, and leads to severe heart disease

METHODS



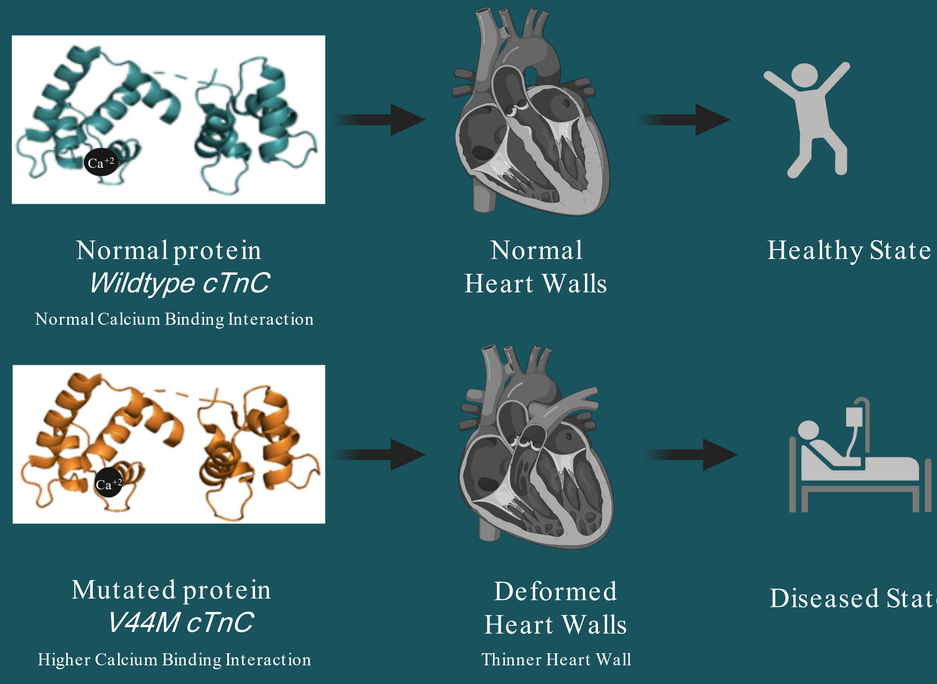
ANTICIPATED RESULTS

- Mutated protein, V44M cTnC, has a *greater binding interaction* with calcium compared to wildtype cTnC

DISCUSSION

- Identifying the altered calcium interaction allows us to create treatments that normalize it
- Treatment aims to stop abnormal heart contraction and halt deterioration of heart health

Mutated cardiac protein, **V44M cTnC, interacts strongly** with calcium, **deteriorating heart health**



REFERENCES

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- Li, A.Y. (2019). *Effects of troponin cardiomyopathy mutations on the calcium binding properties of the troponin complex and reconstituted thin filaments*. [Doctoral Dissertation, Simon Fraser University]. SFU summit-institutional repository.

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