Comparison of NF-kappaB Heterodimers Present within Human and Mouse Proteins

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Introduction to Research

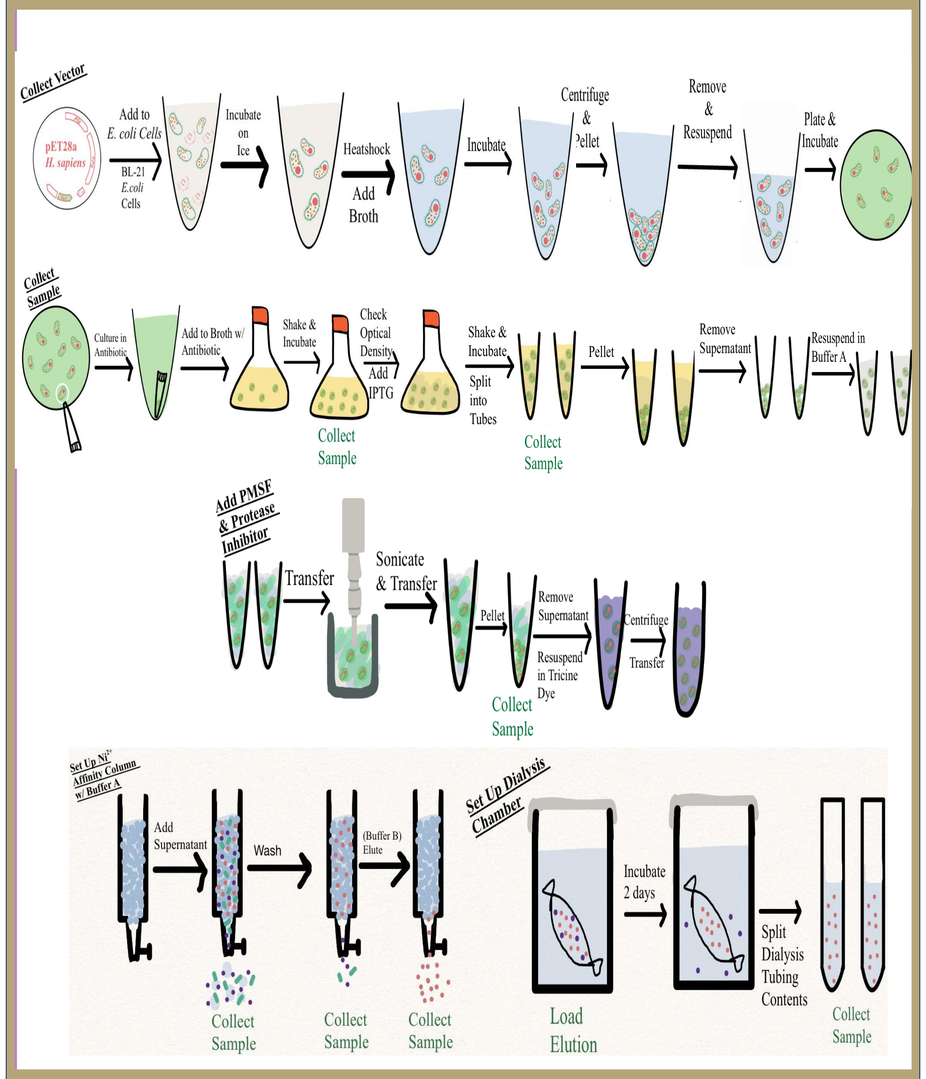
- The goal of our research is to efficiently purify & compare the p50 and Rel A proteins found in both *H. sapiens* and *M. musculus*.

- Activation of these transcription factors contributes to the regulation of cell survival and proliferation, cell function, and inflammation.

- Must determine the best mode of purification for identifying and comparing these heterodimers. Testing an increase in the concentration of Imidazole from 20mM to 35mM within the Wash solution applied to the column would, ideally, create a clear, highly purified elution sample of the RelA and p50 proteins.

- If both sequences show to be comparable to each other, we can affirm the continued research with mouse models as reliable in accurately predicting human response.

Methods

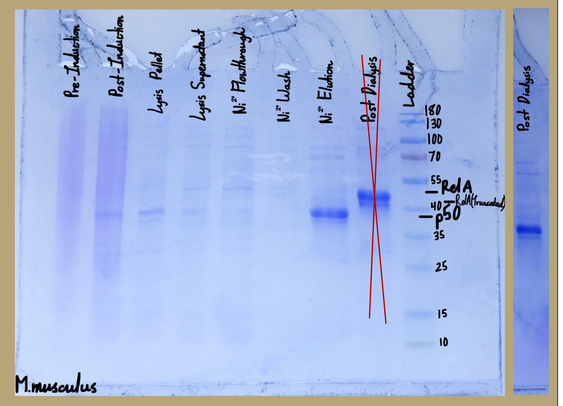


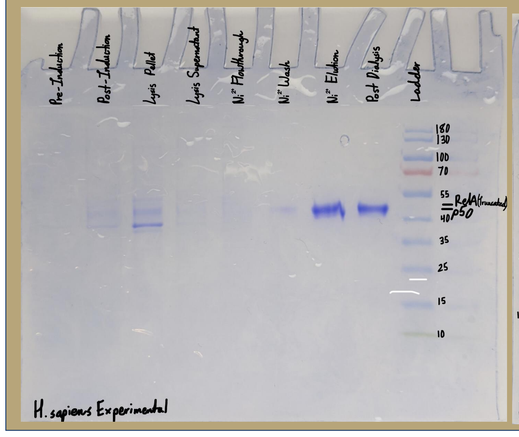
Results

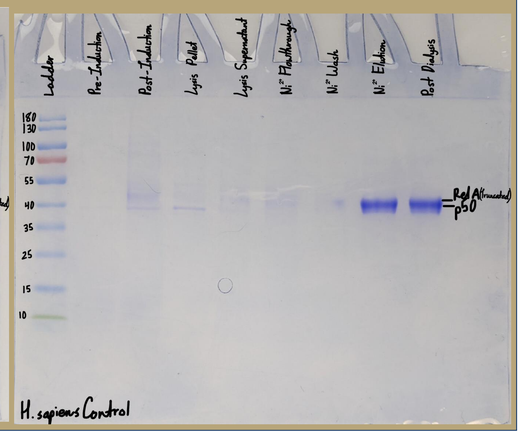
- Mouse and Human P50/RelA proteins were very similar

- Truncated RelA proteins were observed across samples

- Experimental increase of Imidazole was unsuccessful in increasing purification







Conclusions & Further Research

- The similarities between the *p50/RelA* heterodimers of mouse and human cells allude to common health implications between humans and mice.

- Purification of the heterodimers could be improved to verify these connections.

- Future research would benefit from using larger aliquots of each sample and altering protocol to increase visualization of target proteins.

References & Acknowledgements

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