The role of cardiac troponin I autoantibody in the pathogenesis of heart disease

Hypothesis: This project will to test the hypothesis of whether the presence of cTnI autoantibodies and the presence of cytokines coordinately affect cardiomyocyte physiology.

Results:

1) The amount of HL-1 cardiomyocyte cell like influence the cell growth.
2) The surface coating does not affect the HL-1 cell growth.
3) The presence of troponin in the media does not increase IL-6 production in cultured HL-1 cells.

Future Plans:

1) To incubate the HL-1 cells with cTnI antibodies against the pathogenic epitope and measure the IL-6 production
2) To incubate adult cardiomyocytes cultured with cTnI antibodies, troponin complex and measure the IL-6 levels
3) To measure the cardiomyocyte contractility kinetics in the presence of cTnI antibodies and/or troponin complex.
4) To measure cardiomyocyte contractility kinetics with the addition of citokynes.

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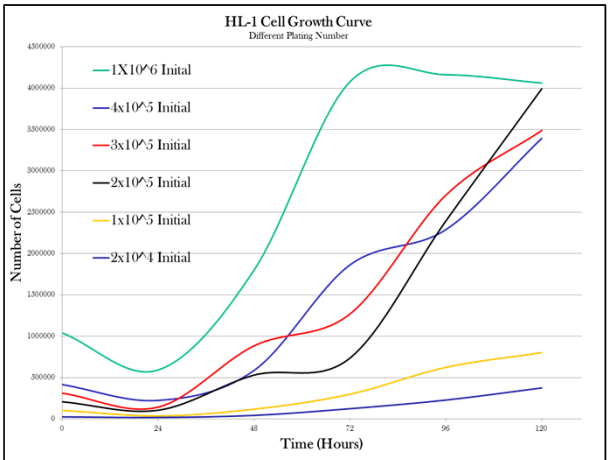

Figure 1: HL-1 cell growth curve plated at different initial amount of cells.

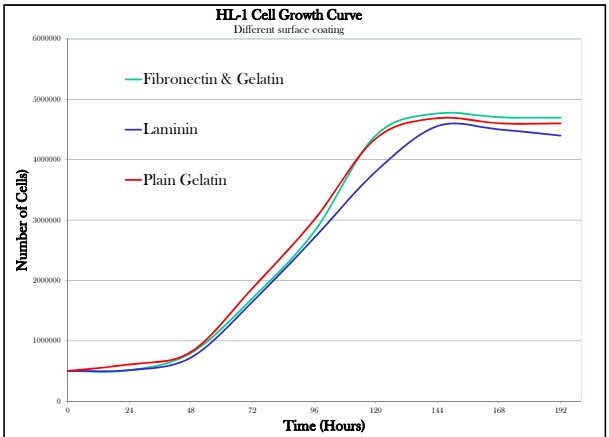

Figure 2: HL-1 cell growth in different surface coating. The type of surface coating does not influence the HL-1 cell growth pattern.

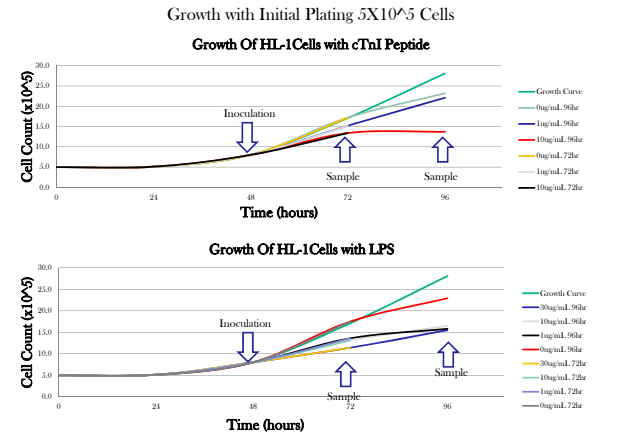

Figure 3: The presence of cTnI peptide at 10 ug/ml and LPS decreases the HL-11 cell growth pattern.