Colorectal Cancer (CRC)
- 3rd most commonly diagnosed cancer & 2nd leading cause of cancer death in men and women combined in the U.S.
- Each year, about 150,000 Americans are diagnosed with this disease and more than 50,000 die.
- Symptoms include a change in bowel habits, diarrhea, constipation, discomfort in the abdomen
- Treatments include Surgery, Radiation Therapy, Chemotherapy, Targeted Therapy

EGFR
- Found at high levels in cancer cells which causes proliferation
- Panitumumab is an EGFR inhibitor and is for treating metastatic colorectal cancer

ASCT2
- Found at high levels in cancer cells which causes proliferation
- Inhibitor of glutamine metabolism V-9302 and CDP selectively target the amino acid transporter ASCT2

Hypothesis
Combination drug treatment using EGFR and ASCT2 inhibitors will lead to greater response in colorectal cancer compared to single-drug therapy.

Materials & Methods
BCA Protein Assay
- Quantitate protein concentration of each sample

Western Blot
- Running & Transfer Condition
  - Run 70V for 20 minutes until sample has run through the stacking gel. At that point run 150V for 30 minutes
  - The membranes were transferred (1.3A, 25V, 10 minutes)
- Antibody: Phospho-EGF Receptor, EGF Receptor, ASCT2, Anti-GAPDH antibody, Anti-rabbit IgG HRP-linked Antibody

Results

Future Work
- Expand research by conducting further trials using varying doses and incubation times
- Use bioinformatics analysis and RNA & DNA sequencing data to characterize cell lines used in study
- Identify other treatment targets that may lead to greater efficacy
- Comprehend the relationship between Western Blot results and sensitivity to drug treatment
- Conduct combination therapy in in-vivo and clinical trials to use in patients as FDA approved drug

References

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