

Impact of the introduction of black raspberries in a standard diet and a western-style diet on colitis and colorectal cancer risk in mice

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● Colorectal Cancer (CAC)



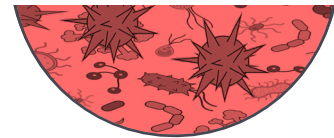
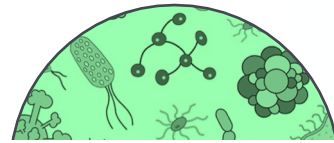
- 1. 4 Million people suffer from inflammatory bowel disease (IBD).
- IBD is the primary risk of CAC.
- CAC is predicted to be responsible for 51,000 deaths in 2019.

● Inflammatory Bowel Disease



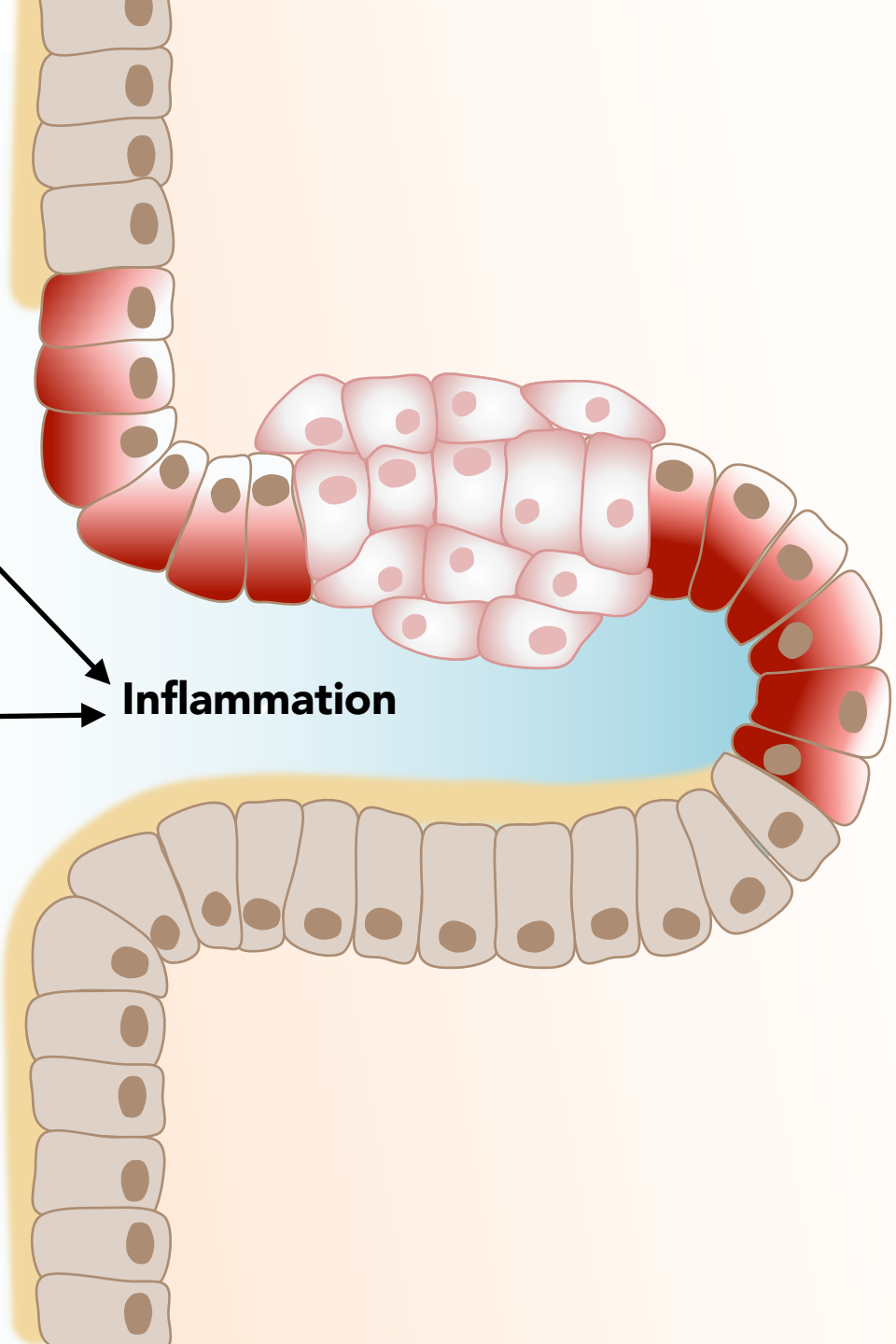
- Patients diagnosed with colitis and Crohn's Disease with prolonged colitis are at high risk.
- Overall health cost of more than \$1.7 billion.
- Treatment include anti-inflammatory drugs.
- Intervention studies to reduce colonic inflammation could reduce the progression of CRC including diet.

Black raspberries



Microbiome

Inflammation



● Total Western Diet for Rodents

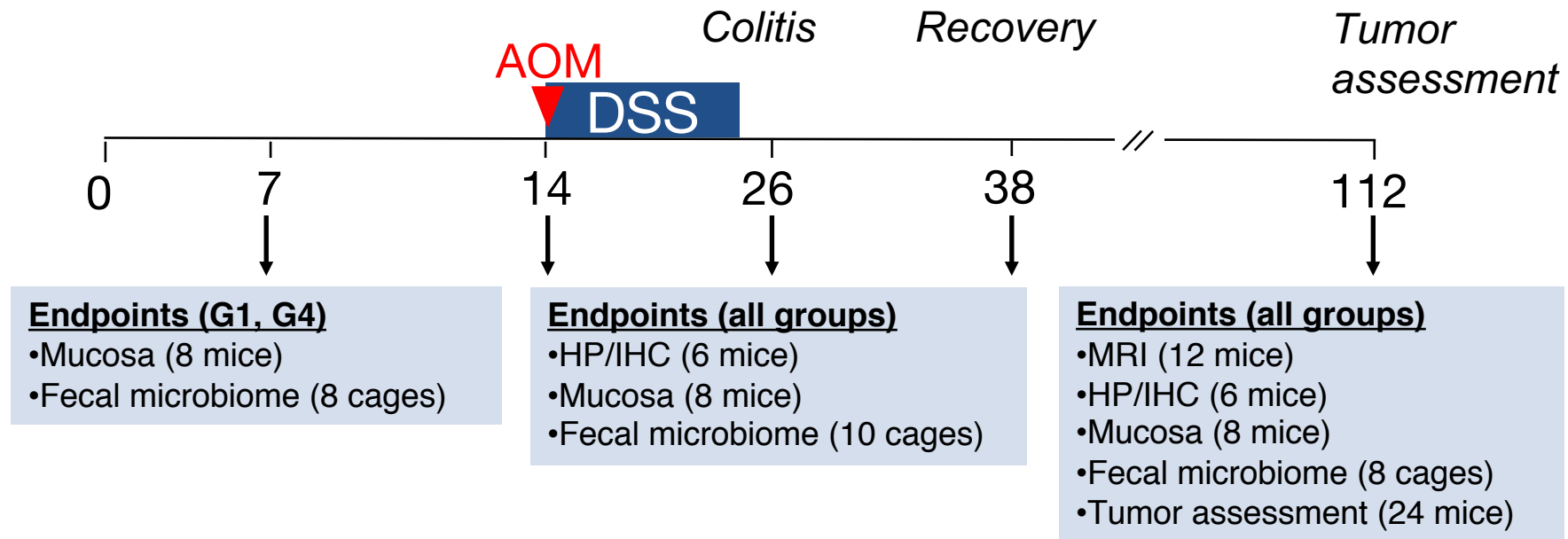
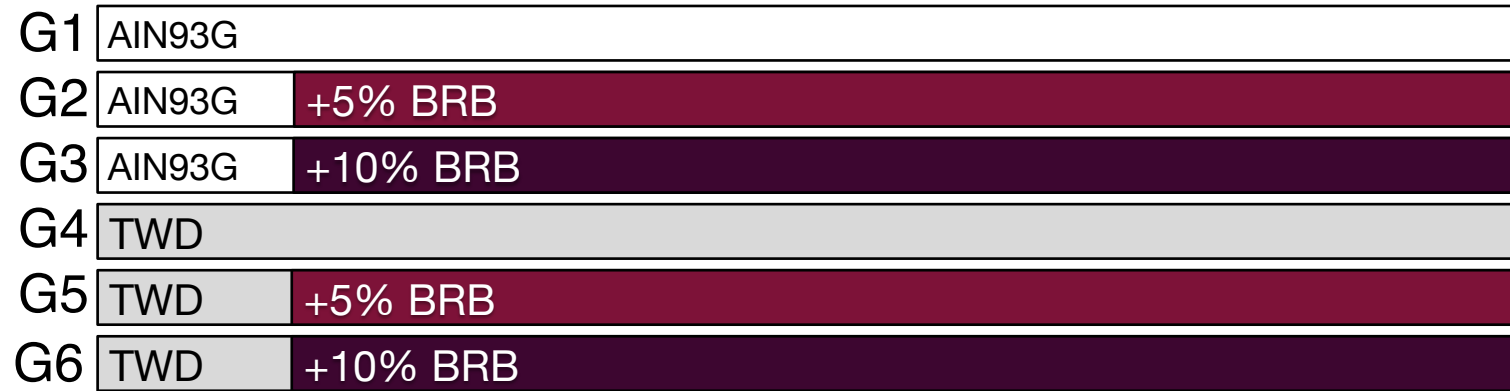


- Based on energy density macro and micro nutrient of the 50th percentile intakes reported in NHANES.
- Past studies showed a 2.8-fold increase in tumor outcome in mice fed the TWD.
- Reduce inflammation by supplementation of different foods such as black raspberries

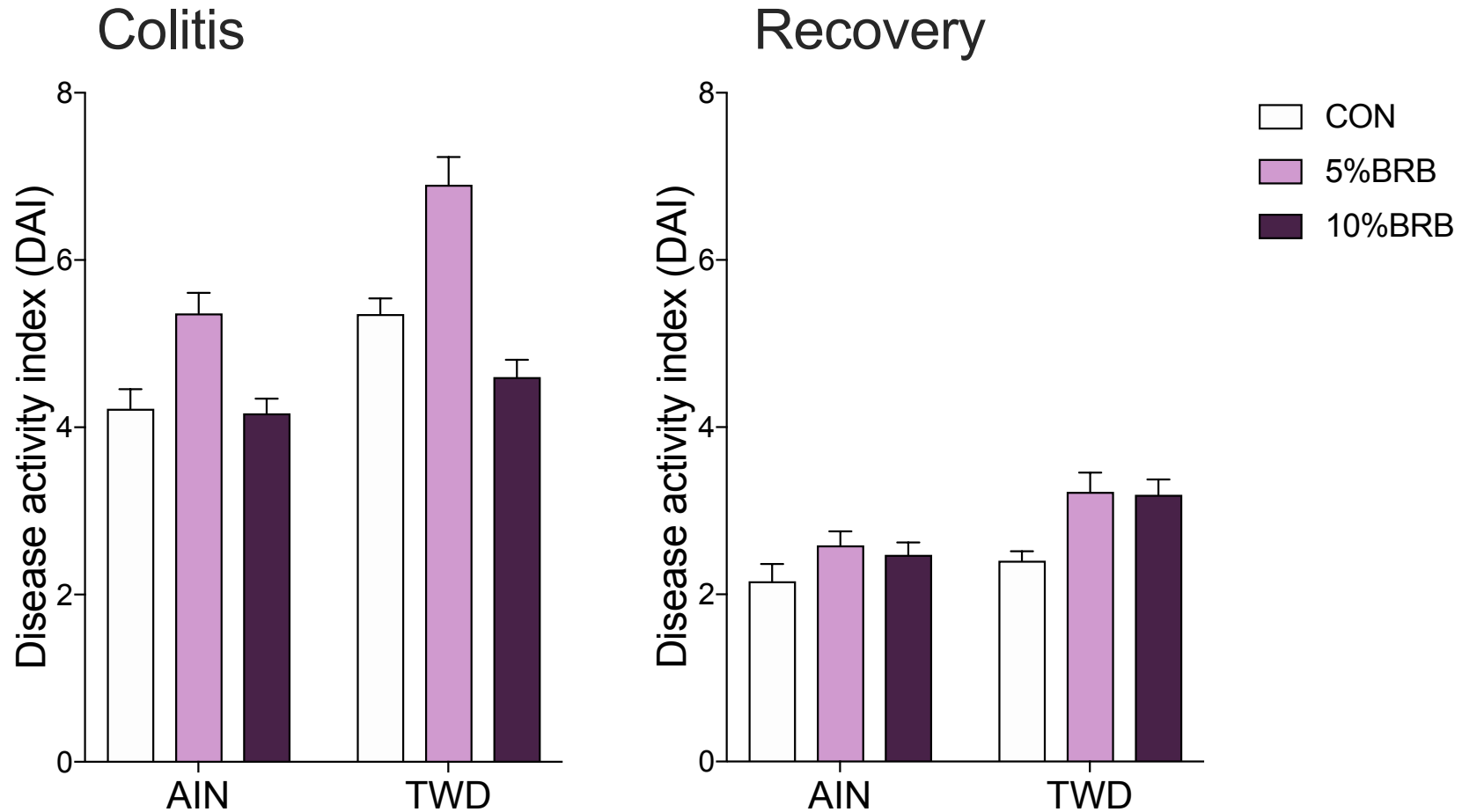
OBJECTIVE

The goal of this study was to compare the efficacy of dietary intervention with whole, freeze-dried black raspberries on colitis and colon tumorigenesis in mice consuming either a standard diet or a Western type diet that emulates typical U.S. nutrient intakes.

Study design



● Early results – colitis symptoms

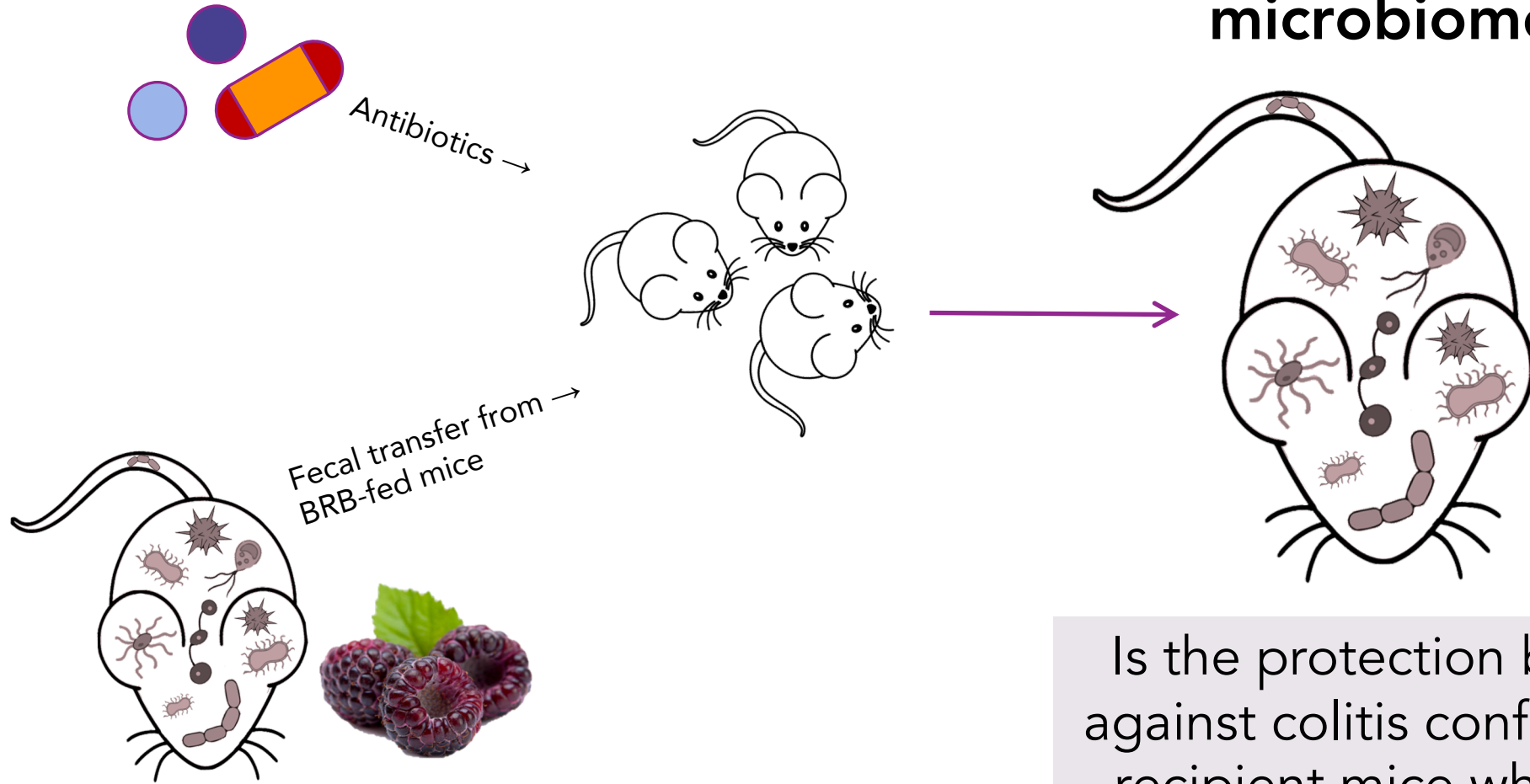


Statistical analysis pending curation of remaining data

● Ongoing Data Analysis

- Body weight gain
- Food intake
- Organ weights
- Tumor outcome
- Microbiome analysis
- Inflammatory Biomarkers
- Gene expression

Future work



Mouse with BRB-conditioned gut microbiome

Is the protection by BRB against colitis conferred to recipient mice when the microbiome is transferred?

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