Crisper CHOPCHOP

Assignment 8

•Pick your favorite gene (not tyrosinase) and your favorite species (not human) available on ChopChop. Find target sites you can use to knockout this gene.

In a text file on your GitHub report the following:

1.) Species (not human) E. coli

2.) Gene (not tyrosinase) Accd

3.) Rank 1 target sequence and genomic location: TCACTGCGCTGGAATCCTGGCGG and NC\_011601.1:2554802

4.) One primer pair that you can use to check the crispant genotypes/use for gRNA.

Report sequence and coordinates for left and right primers

• TCACTGCGCTGGAATCCTGGCGG

• Left: NC\_011601.1:2554872-2554893

• Right: NC\_011601.1:2554709-2554731

5.) If you knock out this gene, what is your expected phenotype?

• Acetyl-CoA carboxylase (ACC) converts acetyl-CoA to malonyl-CoA, which is converted to malonyl-acyl carrier protein (ACP), the building block of the fatty acid moieties of bacterial membrane lipids. ACC is an essential enzyme: loss of function of any of the four subunits of the active enzyme is lethal.