

# 1 IDH1

Isocitrate dehydrogenases, here IDH1 was analyzed, catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. These enzymes belong to two distinct subclasses, one of which utilizes NAD(+) as the electron acceptor and the other NADP(+). Five isocitrate dehydrogenases have been reported: three NAD(+)-dependent isocitrate dehydrogenases, which localize to the mitochondrial matrix, and two NADP(+)-dependent isocitrate dehydrogenases, one of which is mitochondrial and the other predominantly cytosolic. Each NADP(+)-dependent isozyme is a homodimer. The protein encoded by this gene is the NADP(+)-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. It contains the PTS-1 peroxisomal targeting signal sequence. The presence of this enzyme in peroxisomes suggests roles in the regeneration of NADPH for intraperoxisomal reductions, such as the conversion of 2, 4-dienoyl-CoAs to 3-enoyl-CoAs, as well as in peroxisomal reactions that consume 2-oxoglutarate, namely the alpha-hydroxylation of phytanic acid. The cytoplasmic enzyme serves a significant role in cytoplasmic NADPH production. Alternatively spliced transcript variants encoding the same protein have been found for this gene.

\*This gene was expressed in all probes. The most significant differential expression in human was observed for the 23h infected Ebola probe, as it was 8x downregulated. For the samples (WT and MARV) at this timepoint no or only a slight downregulation was observed. In the bat the gene seems to be equally expressed.\*

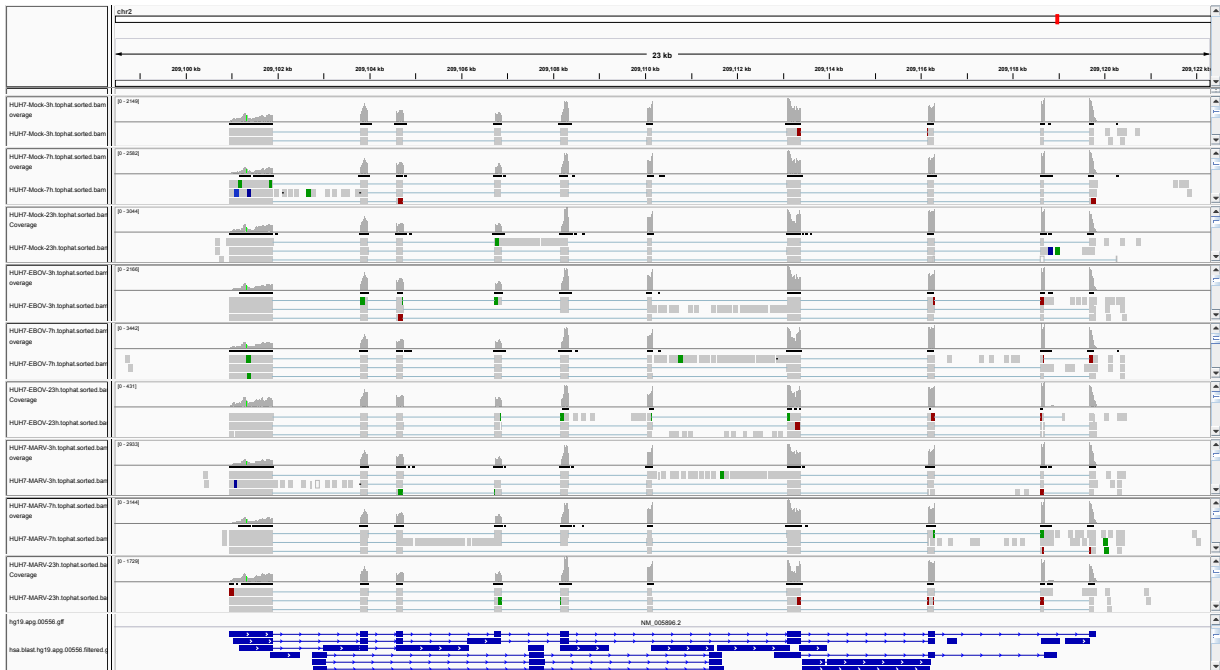


Figure 1: IGV Genome Browser screenshot of gene IDH1.

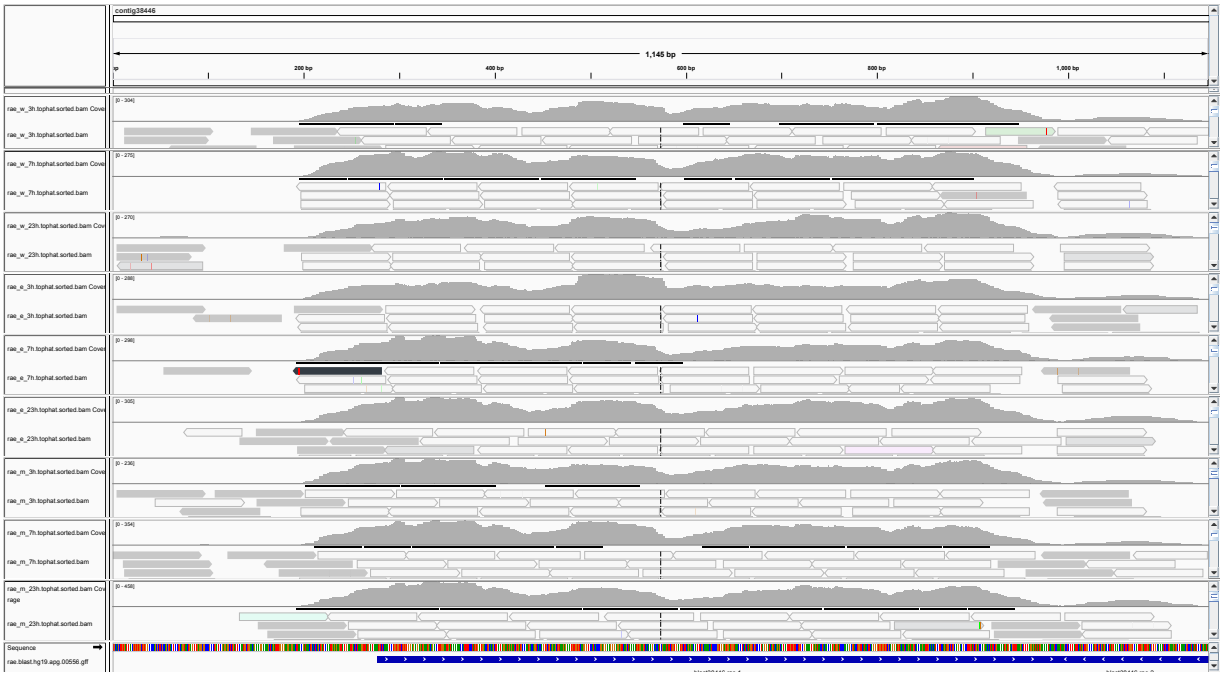


Figure 2: IGV Genome Browser screenshot of contig in the bat.

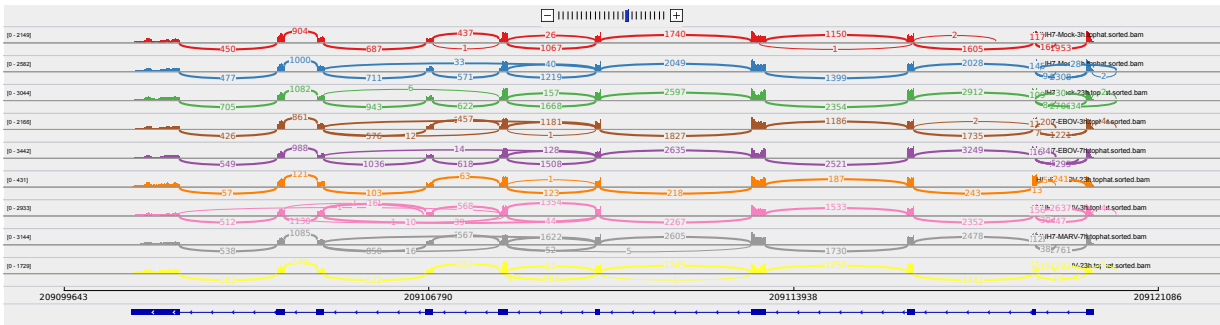


Figure 3: Sashimi plot of gene IDH1.

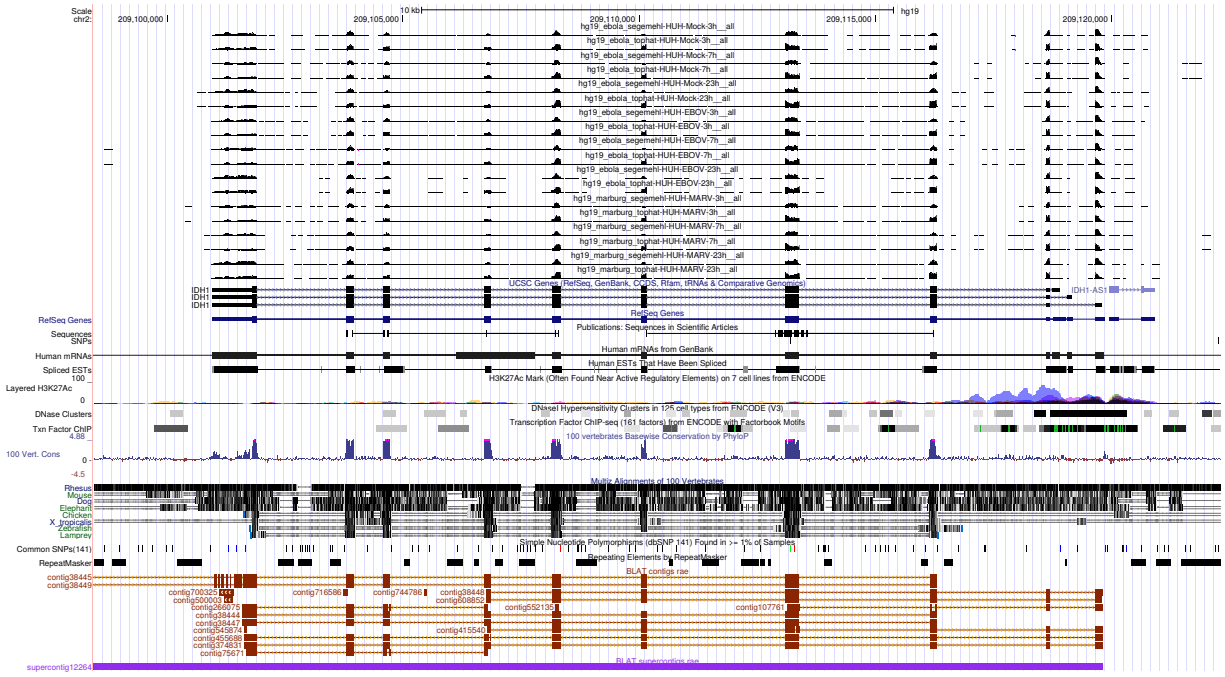


Figure 4: UCSC Genome Browser screenshot of gene IDH1.