Scale 100 bases ⊣ hg19 12,978,700 12,978,850 12,978,950 12,978,750 12,978,800 12,978,900 chr19: nk, CCDS, Rfam, tRNAs & Comparative Genomics) MAST1 QEDEDEARLRRPPRPSSDPAGSLDARAPKEETQGEGTSSAGDSEAT lincRNA and TUCP transcripts C/D and H/ACA Box snoRNAs, scaRNAs, and microRNAs from snoRNABase and miRBase CTR147 CpG merge methylation level CTR147 ı CTR149 CpG merge methylation level CTR149 CTR150 CpG merge methylation level CTR150 CTR151 CpG merge methylation level CTR151 CTR152 CpG merge methylation level CTR152 CTR153 CpG merge methylation level CTR153 CTR154 CpG merge methylation level CTR154 CTR84 CpG merge methylation level CTR84 CTR85 CpG merge methylation level CTR85 CTR86 CpG merge methylation level CTR86 CTR97 CpG merge methylation level CTR97 CTR98 CpG merge methylation level CTR98 CTR101 CpG merge methylation level CTR101 I CTR103 CpG merge methylation level CTR103 CTR104 CpG merge methylation level CTR104 Г CTR106 CpG merge methylation level CTR106 CTR107 CTR107 CpG merge methylation level CTR108 CpG merge methylation level CTR108 CTR110 CpG merge methylation level CTR110 CTR132 CpG merge methylation level CTR132 CTR134 CpG merge methylation level CTR134 CTR148 CpG merge methylation level CTR148 ı CTR111 CpG merge methylation level CTR111 I CTR113 CpG merge methylation level CTR113 CTR114 CpG merge methylation level CTR114 CTR117 CpG merge methylation level CTR117 CTR118 CpG merge methylation level CTR118 CTR126 CpG merge methylation level CTR126 CTR127 CpG merge methylation level CTR127 CTR128 CpG merge methylation level CTR128 CTR129 CpG merge methylation level CTR129 CTR131 CpG merge methylation level CTR131 UCSD Adipose Tissue Bisulfite-Seq Donor STL003 EA Release 9 AT BS 03 ulfite-Seq Donor 3 Library WGBS\_Lib 11 EA Release 8 AL BS 3 11 Aorta Bisulfite-Seq Donor STL003 EA Release 9 UCSE Aorta BS 03 ■ nagus Bisulfite-Seq Donor STL003 EA Release 9 **UCSD Es** Esophagus BS 03 BI Fetal Muscle Leg Bisulfite-Seq Donor UW H24996 Library WGBS\_Lib 66 EA R FML BS 96 66 BI Fetal Thymus Bisulfite-Seq Donor UW H24943 Library WGBS\_Lib 65 EA Re FT BS 43 65 UCSD Gastric Bisulfite-Seq Donor STL003 EA Release 9 Gastric BS 03 UCSD Le entricle Bisulfite-Seq Donor STL001 EA Release 9 LV BS 01 entricle Bisulfite-Seq Donor STL003 EA Release 9 LV BS 03 UCSD Lung Bisulfite-Seq Donor STL002 EA Release 9 Lung BS 02 UCSD Ovary Bisulfite-Seq Donor STL002 EA Release 9 Ovary BS 02 UCSD Pancreas Bisulfite-Seq Donor STL003 EA Release 9 Pancreas BS 03 Muscle Bisulfite-Seq Donor STL003 EA Release 9 UCSD P PM BS 03 UCSD Right Atrium Bisulfite-Seq Donor STL003 EA Release 9 **RABS 03** entricle Bisulfite-Seq Donor STL003 EA Release 9 UCSD Righ **RV BS 03** UCSD Sigmoid Colon Bisulfite-Seq Donor STL001 EA Release 9 SC BS 01 UCSD Sigmoid Colon Bisulfite-Seq Donor STL003 EA Release 9 SC BS 03 UCSD Small Intestine Bisulfite-Seq Donor STL001 EA Release 9 SI BS 01 UCSD Spleen Bisulfite-Seq Donor STL003 EA Release 9 Spleen BS 03 UCSD Thymus Bisulfite-Seq Donor STL001 EA Release 9 Thymus BS 01 DNA methylation in brain tissue (bigWig) Brain Methyl 2 DNA methylation in kidney tissue (bigWig) Kidney Methyl 2 DNA methylation in placenta (biological replicate 1) (bigWig) Placenta1 Methyl 2 DNA methylation in placenta (biological replicate 2) (bigWig) Placenta2 Methyl 2 DNA methylation in placenta (biological replicate 3) (bigWig) Placenta3 Methyl 2 Human\_Cerebellum\_Meth Human\_Kidney\_Meth Kidney Human\_NKcells\_Meth **NKcells** Human\_Sperm\_Meth Sperm Human\_NormalPancreas1\_Meth NormalPancreas1 NormalPancreas2 Human\_93A\_Meth 93A Human\_93N\_Meth Human\_Epidermis-old-sun-exposed\_Meth Epidermis-old-sun-ex Human\_Epidermis-old-sun-protected\_Meth Epidermis-old-sun-pro Human\_Epidermis-young-sun-exposed\_Meth Epidermis-young-sun Human\_Epidermis-young-sun-protected\_Meth Human\_Buccals\_Meth Buccals Human\_Sperm\_Meth Sperm Human\_BloodHealthy\_Meth BloodHealthy Distinct Human DNA Methylomes from Different Ages, Heyn 2012: Human\_CD4T-100yr\_Meth CD4T-100yr Distinct Human DNA Methylomes from Different Ages, Heyn 2012: Human\_CD4T-Newborn\_Meth CD4T-Newborn Distinct Human DNA Methylomes from Different Ages, Heyn 2012 : Human\_PBMC\_Meth PBMC Changes in Human Hematopoietic Stem Cells, Hodges 2011 : Human\_CD133HSC\_Met CD133HSC Roadmap 2015 : Human\_Macrophage\_Meth Macrophage Roadmap 2015 : Human\_NK\_Meth NK Human\_BCell\_Meth BCell Human\_CD133HSC\_Meth CD133HSC Human\_HSPC\_Meth HSPC Human\_Neut\_Meth Neut Human\_H1\_Meth H1 Human\_H1BMP4\_Meth H1BMP4 Human\_H1-mesendoderm\_Meth H1-mesendoderm Human\_H1-NPC\_Meth H1-NPC Human\_Mesenchymal\_Meth Mesenchymal Human\_IMR90\_Meth IMR90 IMR90 Cell Line DNA Methylation by Bisulfite-seq Signal from REMC/UCSD (Library:methylC-seq\_imr90\_r1a) IMR90 BS 1a Human\_BloodALLL2\_Meth BloodALLL2 Human\_BloodALLL1\_Meth BloodALLL1 IMR90 Human\_MCF7\_Meth DNA hypermethylation and long-range hypomethylation in colorectal cancer, Berman 2012 : Human\_ColonCancer\_Meth ColonCancer Increased methylation variation in epigenetic domains across cancer types. : Human\_ColonCancer\_Meth ColonCancer HCC1954 Human\_HepG2\_Meth HepG2 Human\_PancreaticCancer1\_Meth PancreaticCancer1 Human\_PancreaticCancer2\_Meth PancreaticCancer2 PancreaticCancer3 Human\_PancreaticCancer4\_Meth PancreaticCancer4 Human\_PancreaticCancer5\_Meth PancreaticCancer5 Human\_PancreaticCancer6\_Meth PancreaticCancer6 Human\_PancreaticCancer7\_Meth PancreaticCancer7 Human\_PancreaticCancer8\_Meth PancreaticCancer8 PancreaticCancer9 PancreaticCancer10 PancreaticCancer11 H3K27Ac Mark (Often Found Near Active Regulatory Elements) on 7 cell lines from ENCODE Layered H3K27Ac H3K4Me1 Mark (Often Found Near Regulatory Elements) on 7 cell lines from ENCODE Layered H3K4Me1 H3K4Me3 Mark (Often Found Near Promoters) on 7 cell lines from ENCODE Layered H3K4Me3 DNasel Hypersensitivity Clusters in 125 cell types from ENCODE (V3) **DNase Clusters** Transcription Factor ChIP-seq Clusters (161 factors) from ENCODE with Factorbook Motifs Txn Factor ChIP chromHMM tracks from Roadmap LNG IMR90 LNG.IMR90 Restriction Enzymes from REBASE Restr Enzymes Non-Human RefSeq Genes /igna LOC106757998 Bos MAST1 Mus Mast1 Rattus MAST1 Mus Cacna1a Mus Cacna1a ⊀ Mus Cacna1a Mus Cacna1a annotations of RefSeq RNAs (NM\_\* and NR\_\*) CpG Islands (Islands < 300 Bases are Light Green) CpG: 36 Mammal Cons Multiz Alignn nts of 46 Vertebrat Dog Elephan Opossum Chicken X tropicalis Zebrafish Repeating Elements by RepeatMasker RepeatMasker