

### ChIP-Seq Datasets

Panel	This study	Other studies
1a-e	GSM1555116 H3.3 (H3.3 WT)	GSM1033638 H3K27me3 (Banaszynski et. al. 2013)
	GSM1429914 H3K9me3 (H3.3 WT)	GSM1033640 H3K27ac (Banaszynski et. al. 2013)
	GSM1555155 H3.3-H3K9me3 (ESET WT)	SRR036180 H3K4me1 (Goldberg et. al. 2010)
	GSM1555120 KAP1 (H3.3 WT)	GSM1033636 H3K4me3 (Banaszynski et. al. 2013)
		SRR643530 H3K9me2 (Das et. al. 2014)
		SRR572715 H3K9ac (Teif et. al. 2012)
		GSM459273 SETDB1/ESET (Bilodeau et. al. 2009)
1f		SRR0074347 H3K20me3 (Mikkelsen et. al. 2007)
		SRR036149 H3.3-HA (NPC) (Goldberg et. al. 2010)
		SRR036169 H3.3-HA (ESC) (Goldberg et. al. 2010)
		SRR006805 H3K9me3 (NPC) (Mikkelsen et. al. 2007)
1g	GSM1555155 H3.3-H3K9me3 (ESET WT)	SRR007435 H3K9me3 (ESC) (Mikkelsen et. al. 2007)
	GSM1555156 H3.3-H3K9me3 (ESET KO)	
2a-c	GSM1555116 H3.3 (WT)	GSM459273 H3.3-HA (HIRA KO) Noh K-M, unpublished
	GSM1555117 H3.3 (H3.3 KO1)	SETDB1/ESET (Bilodeau et. al. 2009)
	GSM1555138 H3.3 (ATR X KO)	GSM1372574 ATRX (Sarma et. al. 2014)
	GSM1429929 H3.3-HA (DAXX KO)	
	GSM1555120 KAP1 (H3.3 WT)	
	GSM1429920 DAXX (H3.3 WT)	
2d	GSM1555149 H3.3 (KAP1 WT)	
	GSM1555150 H3.3 (KAP1 KO)	
	GSM1555153 H3.3 (ESET WT)	
	GSM1555154 H3.3 (ESET KO)	
2f	GSM1555120 KAP1 (H3.3 WT)	
	GSM1555121 KAP1 (H3.3 KO1)	
	GSM1555122 KAP1 (H3.3 KO2)	
3a	GSM1429917 H3 (H3.3 WT)	
	GSM1429918 H3 (H3.3 KO1)	
	GSM1429919 H3 (H3.3 KO2)	
	GSM1429914 H3K9me3 (H3.3 WT)	
	GSM1429915 H3K9me3 (H3.3 KO1)	
	GSM1429916 H3K9me3 (H3.3 KO2)	
ED Fig 1	GSM1555116 H3.3 (H3.3 WT)	GSM459273 SETDB1/ESET (Bilodeau et. al. 2009)
	GSM1555137 H3.3 (ATR X WT)	GSM487555 H3.3-HA (C6 WT) (Noh K-M, unpublished)
	GSM1555139 H3.3 (ATR X WT)	GSM487555 H3.3-HA (W9.5 WT) (Noh K-M, unpublished)
	GSM1555141 H3.3-HA (ATR X WT)	GSM423355 H3.3-HA (C6 WT) (Goldberg et. al. 2010)
	GSM1555120 KAP1 (H3.3 WT)	SRR0074347 H3K20me3 (Mikkelsen et. al. 2007)
	GSM1555155 H3.3-H3K9me3 (ESET WT)	SRR007435 H3K9me3 (ESC) (Mikkelsen et. al. 2007)
	GSM1429914 H3K9me3 (H3.3 WT)	SRR031672 H3K9me3 (Bilodeau et. al. 2009)
	GSM1555143 H3K9me3 (ATR X WT)	SRR031675 H3K9me3 (Bilodeau et. al. 2009)
	GSM1555134 H3K9me3 (DAXX WT)	SRR031677 H3K9me3 (Bilodeau et. al. 2009)
	GSM1555120 KAP1 (H3.3 WT)	GSM1033638 H3K27me3 (Banaszynski et. al. 2013)
	GSM1555123 KAP1 (H3.3 WT) mAb	GSM1033640 H3K27ac (Banaszynski et. al. 2013)
		SRR036180 H3K4me1 (Goldberg et. al. 2010)
		GSM1033636 H3K4me3 (Banaszynski et. al. 2013)
		SRR643530 H3K9me2 (Das et. al. 2014)
		GSM1372574 ATRX (Sarma et. al. 2014)
		GSM1207788 HIRA (Banaszynski et. al. 2013)
		SRR057566 ATRX (Law et. al. 2014)
ED Fig 2	GSM1555116 H3.3 (H3.3 WT)	
	GSM1429914 H3K9me3 (H3.3 WT)	
	GSM1555155 H3.3-H3K9me3 (ESET WT)	
	GSM1429923 Input FA (H3.3 WT)	
	GSM1555128 Input native (H3.3 WT)	

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<b>Panel</b>	<b>This study</b>		<b>Other studies</b>		
<b>ED Fig 3</b>	GSM1555116	H3.3 (WT)			
	GSM1555117	H3.3 (H3.3 KO1)			
<b>ED Fig 4</b>	GSM1555116	H3.3 (H3.3 WT)			
	GSM1429914	H3K9me3 (H3.3 WT)			
<b>ED Fig 5</b>	GSM1555116	H3.3 (WT)	SRR579161	Dnase	
			GSM1386358	H3.3-HA 3 hrs	(Yildirim et. al. 2014)
			GSM1386359	H3.3-HA 6 hrs	(Yildirim et. al. 2014)
			GSM1386362	H3.3-HA No Dox	(Yildirim et. al. 2014)
			SRR974801	MNase Seq "open"	(Chen et. al. 2013)
			SRR974802	MNase Seq "position"	(Chen et. al. 2013)
<b>ED Fig 6</b>			GSM423358	RNAPII_CTD4H8_xChIPSec	(Goldberg et. al. 2010)
			SRR036149	H3.3-HA (NPC)	(Goldberg et. al. 2010)
			SRR036169	H3.3-HA (ESC)	(Goldberg et. al. 2010)
			SRR006805	H3K9me3 (NPC)	(Mikkelsen et. al. 2007)
			SRR007435	H3K9me3 (ESC)	(Mikkelsen et. al. 2007)
			GSM727425	H3K9me3 (ESET WT)	(Karimi et. al. 2011)
			GSM727426	H3K9me3 (ESET KO)	(Karimi et. al. 2011)
			SRR1262945	H3K9me3 (WT)	(Bulut-Karslioglu et. al. 2014)
		SRR1262947	H3K9me3 (Suv39h DKO)	(Bulut-Karslioglu et. al. 2014)	
<b>ED Fig 7</b>	GSM1555120	KAP1 (H3.3 WT)			
	GSM1555149	H3.3 (KAP1 WT)			
	GSM1555150	H3.3 (KAP1 KO)			
	GSM1555120	KAP1 (H3.3 WT)			
	GSM1555121	KAP1 (H3.3 KO1)			
	GSM1555122	KAP1 (H3.3 KO2)			
	GSM1429920	DAXX (H3.3 WT)			
	GSM1429921	DAXX (H3.3 KO1)			
GSM1429922	DAXX (H3.3 KO2)				
<b>ED Fig 8</b>	GSM1555116	H3.3 (WT)	SRR611521	H3K9me3 (KAP1 WT)	(Rowe et. al. 2013)
	GSM1555117	H3.3 (H3.3 KO1)	SRR611522	H3K9me3 (KAP1 KO)	(Rowe et. al. 2013)
	GSM1429914	H3K9me3 (H3.3 WT)			
	GSM1429915	H3K9me3 (H3.3 KO1)			
	GSM1429916	H3K9me3 (H3.3 KO2)			
	GSM1555120	KAP1 (H3.3 WT)			
	GSM1555121	KAP1 (H3.3 KO1)			
	GSM1555122	KAP1 (H3.3 KO2)			
<b>ED Fig 9</b>	GSM1555116	H3.3 (H3.3 WT)			
	GSM1429906	H3.3 (H3.3 KD1)			
	GSM1555117	H3.3 (H3.3 KO1)			
	GSM1429903	H3K9me3 (WT)			
	GSM1429903	H3K9m3 (H3.3 KD1)			
	GSM1429909	H3 (H3.3 WT)			
	GSM1429910	H3 (H3.3 KD1)			
	GSM1429907	H3.1/2 (WT)			
	GSM1429926	H3.2-HA (KD1) addback			
	GSM1429927	H3.3-HA (KD1) addback			
	GSM1555126	H3.2-HA (KO1) addback			
	GSM1555127	H3.3-HA (KO1) addback			