

**Supplementary Table 2. Antibodies directed against RNAP II used to obtain the ChIP-seq data sets analysed.** These antibodies have been characterized and shown to recognize the different phosphorylated forms of RNAP II (Chapman et al. 2007; Ferrai et al. 2010). Although our analysis reveals similar overall results obtained with the different antibodies, some discrepancies observed between cell lines may be due to differences in antibody reactivity and specificity.

<b>Organism (cell type)</b>	<b>Antibody (clone)</b>	<b>Reference</b>
Mouse embryonic stem cells	RNAP II total (N-20)	Santa Cruz sc-899
	Ser5P	Abcam ab5131
	Ser2P (H5)	Abcam ab24758
Human CD4+ T cells	RNAP II total (4H8)	Abcam ab5408
	RNAP II unphosphorylated (8WG16)	Abcam ab817
	Ser5P	Abcam ab5131
Mouse CD4+/CD8+ T cells	RNAP II total (N-20)	Santa Cruz sc-899
	Ser5P (3E8)	Chapman RD et al 2007
	Ser2P (3E10)	Chapman RD et al 2007
Human MCF7	RNAP II total (N-20)	Santa Cruz sc-899

## REFERENCES

Chapman R, Heidemann M, Albert T, Mailhammer R, Flatley A, Meisterernst M, Kremmer E, Eick D. 2007. Transcribing RNA polymerase II is phosphorylated at CTD residue serine-7. *Science* **318**: 1780-1782.

Ferrai C, Xie SQ, Luraghi P, Munari D, Ramirez F, Branco MR, Pombo A, Crippa MP. 2010. Poised transcription factories prime silent uPA gene prior to activation. *PLoS Biol* **8**(1): e1000270.