

**Supplemental Figure 1: Identification of transcription factor binding motifs within *III7a/f* conserved noncoding sequence elements**

Clustal W was used to perform DNA sequence alignments for selected CNS elements cross comparing multiple species. MatInspector identified consensus transcription factor binding sites for the denoted transcription factor families. Individual consensus sequence motifs are indicated by black brackets. Colored boxes identify highly conserved sequences within which consensus transcription factor binding sites are identified.

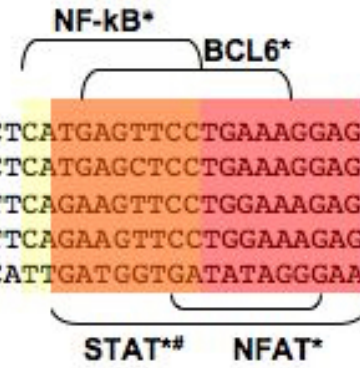
**Supplemental Figure 2: Kinetics of IL-1 $\beta$ -induced NF-kB factor and pY-STAT3 activation**

Naïve CD4<sup>+</sup> T cells were cultured for 5 days under TH17-polarizing conditions then were either left unstimulated or restimulated with 10ug/mL of cytokine (IL-1 $\beta$  or IL-23 or both) for various times as indicated. Quantification of Tyr705-phosphorylated STAT3 (A), NF-kB p65 (RelA, B), c-Rel (C), and NFkB p50 (D) was performed by immunoblot analysis. Results represent mean  $\pm$  SEM of at least three independent experiments. \*p<0.05 and #p<0.01 versus values obtained for IL-23 stimulation alone.

# Supplemental Figure 1

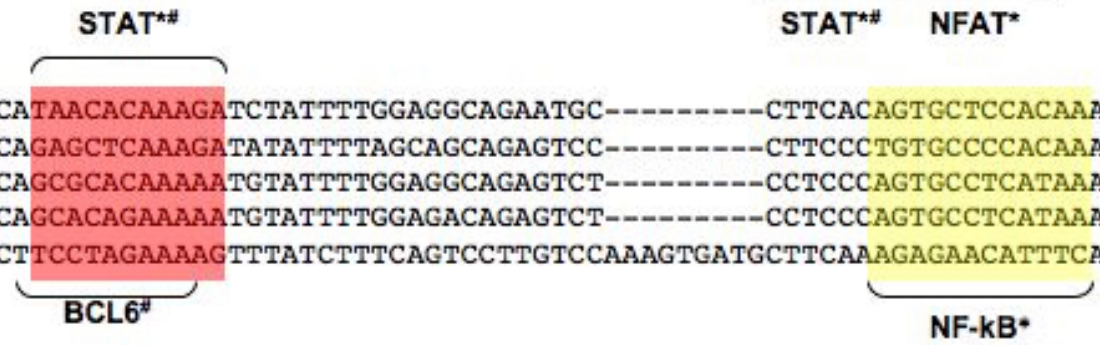
## CNS +10

human	TGCCT--CATGCCGGAACACCAACA-----TAGGTTACTCTCATGAGTTCCTGAAAGGAG---
rhesus	TGCCT--CATGCCGGAACACCAACA-----TAGGTTACTCTCATGAGCTCCTGAAAGGAG---
mouse	TACCT--CATGCTGAATTACCACAGG----TAGGTTACTTTTCAAGAGTTCCTGGAAAGAG---
rat	TGCCT--CATGCTGAATTACCACAGGTAGGTAGGTACCTTTTCAAGAGTTCCTGGAAAGAGCG
horse	GAGCTGACAAGGTTGGTTCTCAAAG-----CATGTAATTCATTGATGGTGATATAGGGAAAG-



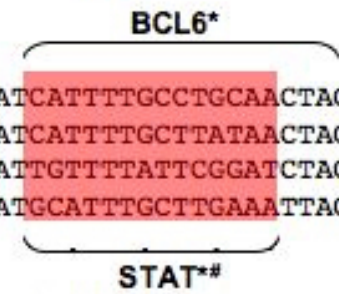
## CNS +28

dog	---CATAACACAAAGATCTATTTTGGAGGCAGAATGC-----CTTCACAGTGCTCCACAAAC
horse	---CAGAGCTCAAAGATATATTTTAGCAGCAGAGTCC-----CTTCCC TGTGCCCCACAAAI
human	---CAGCGCACAAAAATGTATTTTGGAGGCAGAGTCT-----CCTCCCAGTGCCTCATAAAI
rhesus	---CAGCACAGAAAAATGTATTTTGGAGACAGAGTCT-----CCTCCCAGTGCCTCATAAAI
mouse	TTACTTCCTAGAAAAGTTTATCTTTCAGTCCTTGTCCAAAGTGATGCTTCAAAGAGAACATTTTCAG



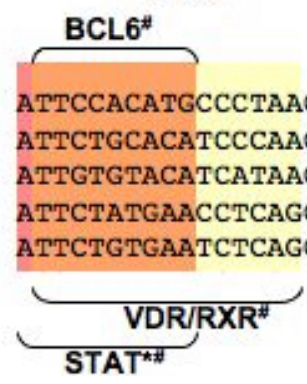
## CNS -97

dog	ATCATTGCTGCAACTAGGATTTCTGAACATTCT-CGGGAATTTCTGG 144
horse	ATCATTGCTTATAACTAGTGTTTCTGAACATTCTTTGGGAAATTCTGG 144
human	ATTGTTTATTTCGGATCTAGTGTT----- 124
mouse	ATGCATTGCTTGAAATTAGCCTT----- 71



## CNS -37

dog	ATTCCACATGCCCTAACAGGTCACAGTCT-----GAGC--- 83
horse	ATTCTGCACATCCCAACAGGTTACAGTCTCATCGGATGGGGCTGAGTCCG 97
rat	ATTGTGTACATCATAACGAGTCACAAATATCATCAGACTGGGCCGAATCTC 92
human	ATTCTATGAACCTCAGCTGGTCAAGGGCTCAT-ACATAGCACTGACTCTC 88
mouse	ATTCTGTGAATCTCAGCTGGTACGAAC TGAT-ACGTGTCACTGACTCTA 88



## Supplemental Figure 2

