



**Figure 12.** Control of gene expression by “histone mimics.” Nucleosomes contribute to the control of signal-induced transcriptional elongation by recruiting BRD4 and its associated P-TEFb complex via the acetylated amino-terminal tail of histone H4 and the PAF1 complex (PAF1C) via the amino-terminal ARTK motif of histone H3. The small molecules JQ1 and I-BET (red arrow) function as synthetic histone mimics by preventing the recruitment of BRD4 to promoters through competitive binding to BRD4 bromodomains. The carboxy-terminal ARSK sequence (red rectangle) of the influenza NS1 protein acts as a histone mimic by competing with the amino-terminal tail of histone 3 for binding to the PAF1 complex.