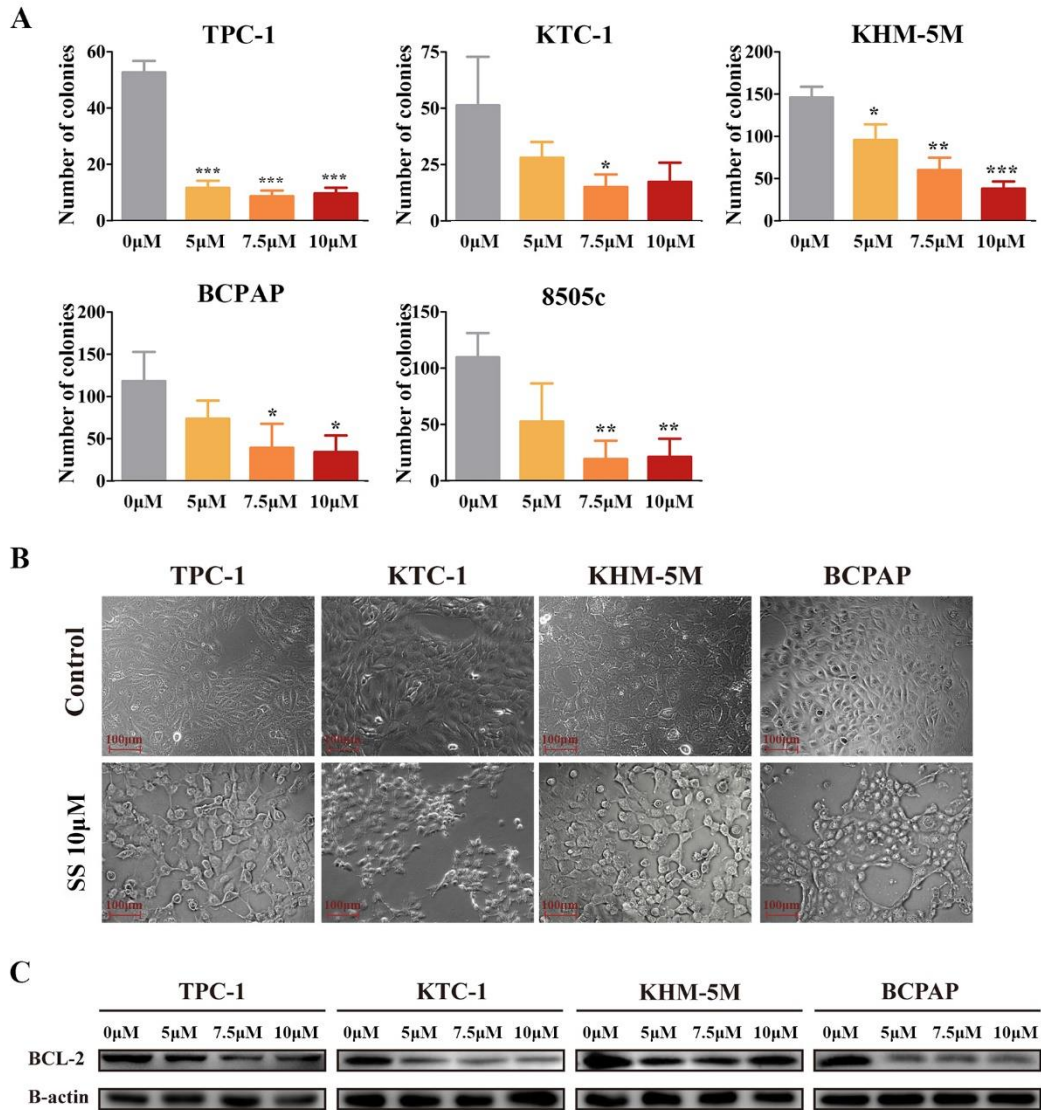


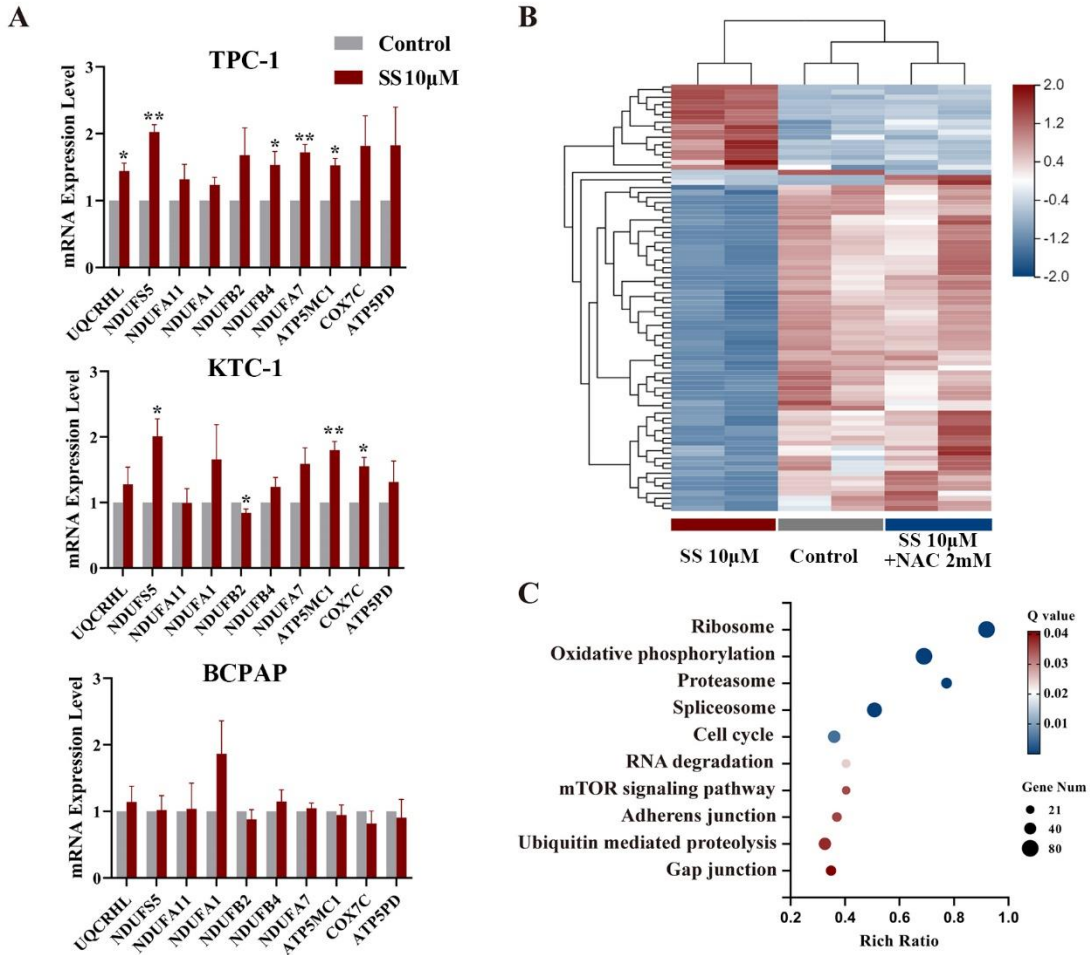
Supplementary Material

Supplementary Table 1. Primers information

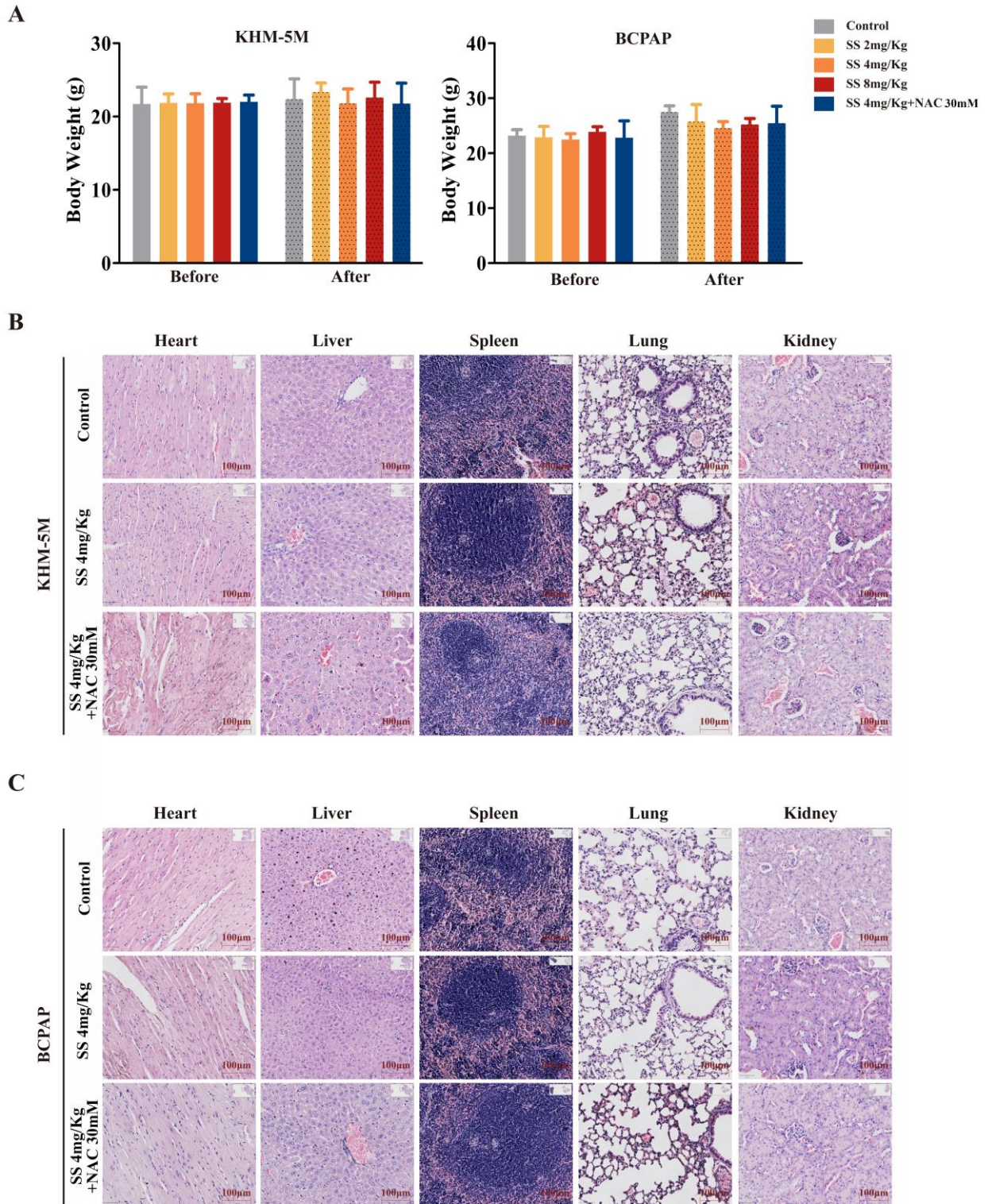
RT-PCR	
h-UQCRHL-F	GACTGGAGGACGAGCAAAAG
h-UQCRHL-R	TCTCTCACTGTTGTTAGGGG
h-NDUFS5-F	TGCACATGGAATCGGTTATACTC
h-NDUFS5-R	CCGAAGCAAACACTCTACGAAAT
h-NDUFA11-F	GCCGAAGGTTTTTCGTCAGTA
h-NDUFA11-R	GGAGGATTGAGTGTGACTCTGT
h-NDUFA1-F	ATGTGGTTCGAGATTCTCCCC
h-NDUFA1-R	CCTGTGGATGTACGCAGTAGC
h-NDUFB2-F	GGAGGCCGCCTTTTCAGAA
h-NDUFB2-R	GGAAGGATCAGGATACGGAAAGT
h-NDUFB4-F	ATGTCGTTCCCAAAGTATAAGCC
h-NDUFB4-R	GAAGCAGGTACTCTCGTTTCAG
h-NDUFA7-F	TGCAGCTACGCTACCAGGA
h-NDUFA7-R	GAGCTTGTGGCTAGGACCC
h-ATP5MC1-F	CTGTTGTACCAGGGGTCTAATCA
h-ATP5MC1-R	GTGGGAAGTTGCTGTAGGAAG
h-COX7C-F	GTGTCCTACTACAAGGAAGGGTG
h-COX7C-R	GGTCCGTAGGAGCCACTATGA
h-ATP5PD-F	GCTGGGCGAAAACCTTGCTCTA
h-ATP5PD-R	CCAGTCGATAGCTGGTGGATT
h-EIF4EBP3-F	CGGTTACTTTGCTGCTCCTC
h-EIF4EBP3-R	GTGCGTCATCGGGTATCTCT
h- β -ACTIN -F	CATCACCATTGGCAATGAGC
h- β -ACTIN -R	GCCATGCCAATCTCATCTTG



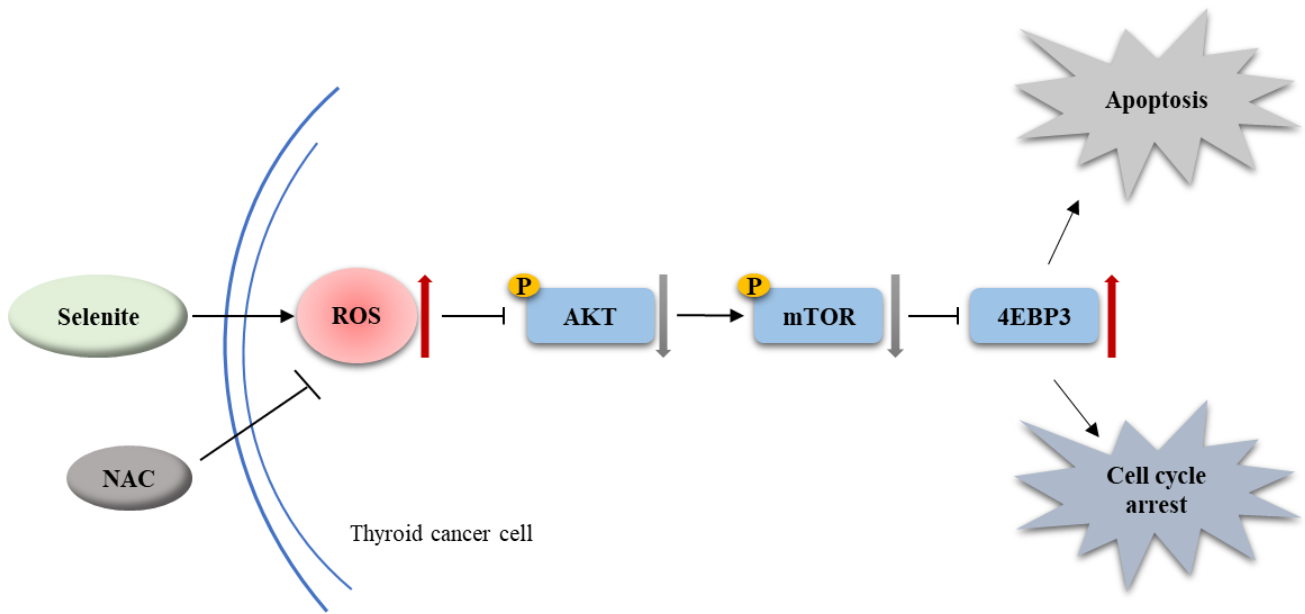
Supplementary Figure 1. SS induces thyroid cancer cell apoptosis. **(A)** The number of colonies in control and SS treatment groups. **(B)** Morphological changes of cancer cells were observed under microscope and **(C)** the protein levels of Bcl-2 were detected after treated with indicated concentration of selenite for 24 h. * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$. SS: Sodium selenite.



Supplementary Figure 2. Transcriptomic changes induced by SS. **(A)** Relative RNA expressions of top 10 genes enriched in oxidation phosphorylation pathway were validated by qRT-PCR in TPC-1, KTC-1 and BCPAP. **(B)** Hierarchical cluster analysis of differentially expressed genes in SS, control, and SS+NAC group. **(C)** Pathway enrichment analysis of differentially expressed genes between SS group and SS+NAC group. * $P < 0.05$; ** $P < 0.01$. SS: Sodium selenite. NAC: N-acetylcysteine.



Supplementary Figure 3. Animal safety of sodium selenite treatment. (A) The body weights of mice in different groups before and after treatment. (B) HE staining of major organs of KHM-5M or (C) BCPAP xenografts mice after experiments. SS: Sodium selenite. NAC: N-acetylcysteine.



Supplementary Figure 4. Schematic picture to clarify the anticancer function of selenite in thyroid cancer cell.