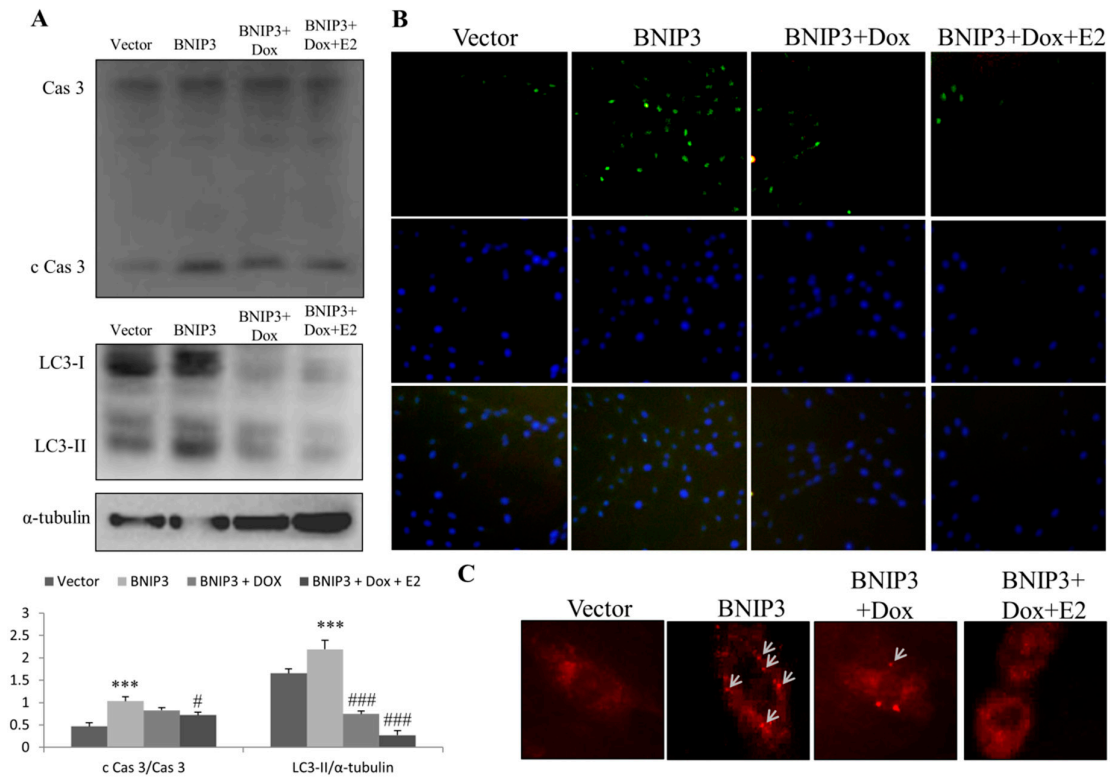


Supplementary Figure 1. Effects of Estrogen and Estrogen Receptor on hypoxia induced Caspase 3 activation and LC3-II levels. Representative western blots show the levels of caspase 3, LC3 and BNIP3 in control neonatal rat ventricular myocytes (NRVMs) (C), Hypoxia treated NRVMs, Dox induced ER α expressing NRVMs under hypoxia (Dox), Dox induced ER α expressing NRVMs with Estrogen treatment under hypoxia (Dox + E2). $n = 3$, *** $p < 0.001$ show significant difference with respect to control NRVMs. group; ## $p < 0.01$ and ### $p < 0.001$ show significant difference with respect to control hypoxia group.



Supplementary Figure 2. Effects of Estrogen and Estrogen Receptor on BNIP3 induced Caspase 3 activation and LC3-II levels. A, Representative western blots show the levels of caspase 3 and LC3 and BNIP3 in control neonatal rat ventricular myocytes (NRVMs) transfected with empty vector (Vector), BNIP3 overexpressed NRVMs (BNIP3), Dox induced ER α expressing NRVMs with BNIP3 over expression (BNIP3 + Dox), Dox induced ER α expressing NRVMs with Estrogen treatment and BNIP3 over expression (BNIP3 + DOX + E2). B, Apoptosis levels detected by TUNEL assay. C, LC3 puncta assay to show autophagy levels. White arrows show the LC3 puncta formation in the cells undergoing autophagy $n = 3$, *** $p < 0.001$ show significant difference with respect to control NRVMs. group; # $p < 0.05$ and ### $p < 0.001$ show significant difference with respect to control BNIP3 overexpression group.