

A: Western Blot detected the expression levels of RBA22a at 21%O₂ (normoxic), 10%O₂, 5%O₂ and 3%O₂, respectively. B: Relative quantification and statistical analysis of proteins of RAB22a expression. (Data are presented as mean±SD, * P<0.05 compare with the normoxic group).

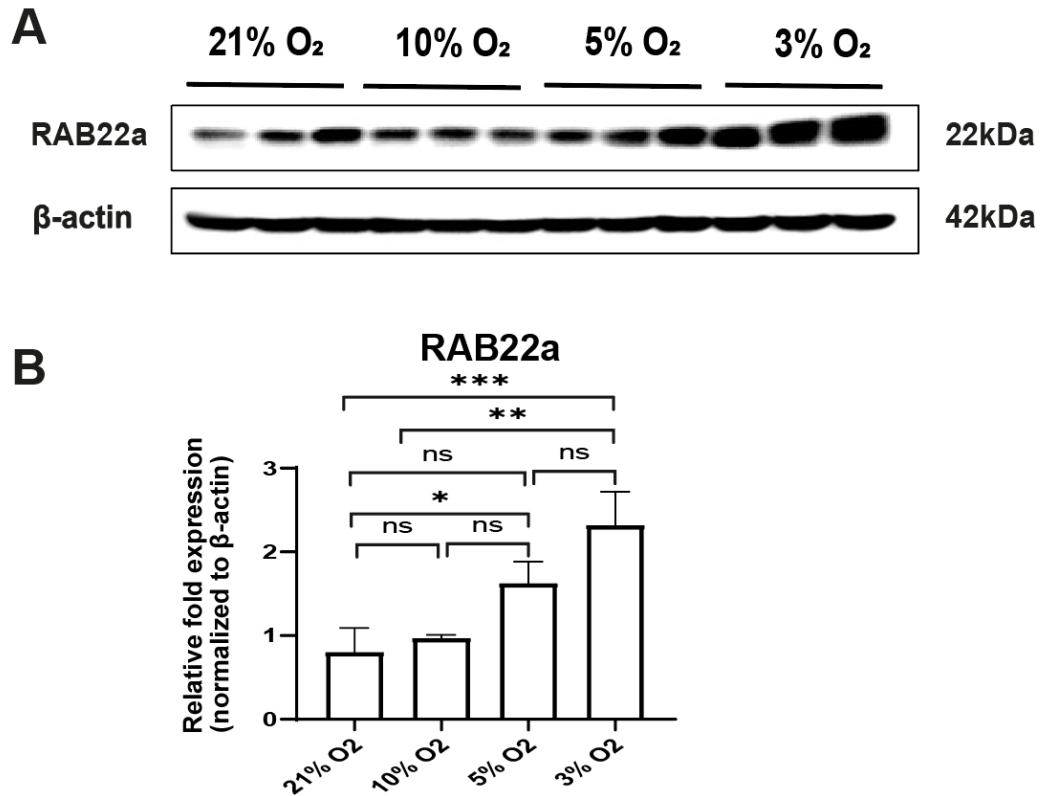


Figure S2

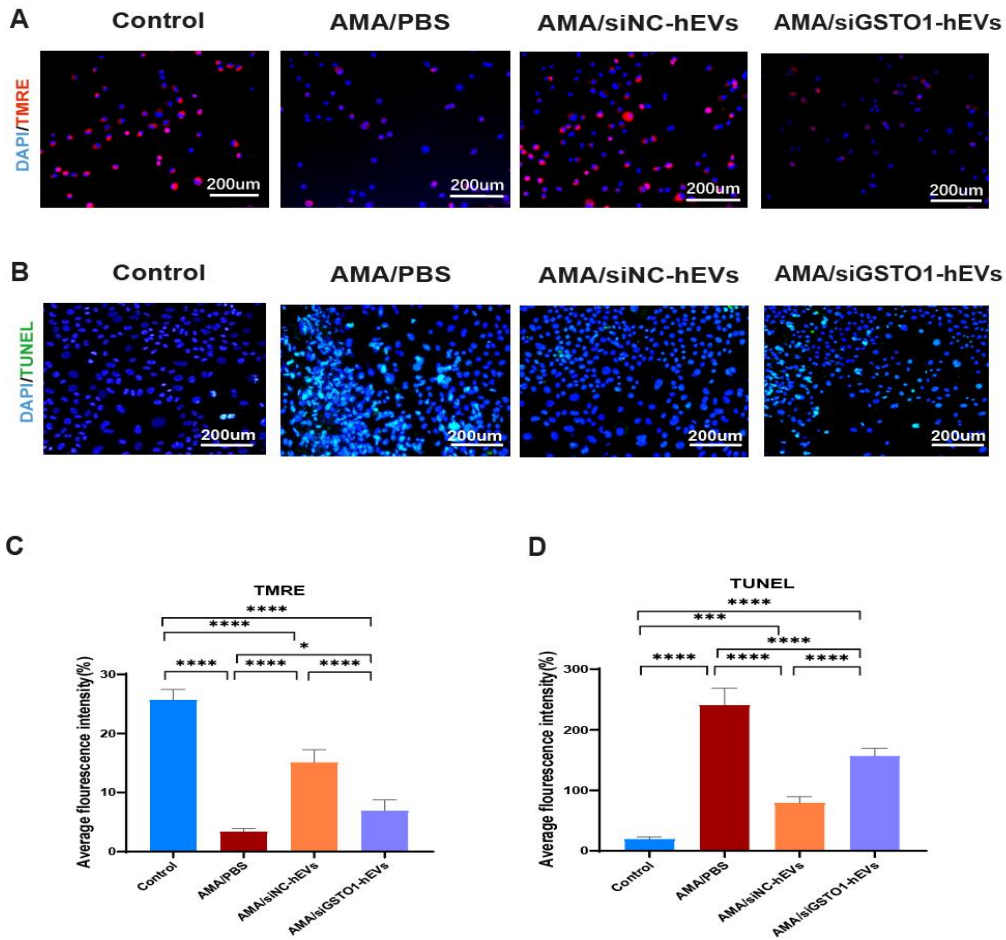


Figure S2. GSTO1 knockdown weakens the repair capacity of hypoxia MSC-EVs on injured tubules cells.

A: Representative images of mitochondrial membrane potential of NRK-52E in Control group, AMA & PBS treated group, AMA & hypoxic EVs (AMA/siNC-hEVs), and AMA & hypoxic EVs that GSTO1 was knockdown (AMA/siGSTO1-hEVs), scale bars=200µm; B: Representative images of TUNEL staining of NRK-52E in Control group, AMA & PBS treated group, AMA & hypoxic EVs (AMA/siNC-hEVs), and AMA & hypoxic EVs that GSTO1 was knockdown (AMA/siGSTO1-hEVs), scale bars=200µm; C: Statistics of quantified TMRE fluorescence in NRK-52E cells; D: Statistics of TUNEL staining in NRK-52E cells. Data are presented as mean±SD, *p < 0.05, **p < 0.01, ***p < 0.001, ****p < 0.0001.

Figure S3

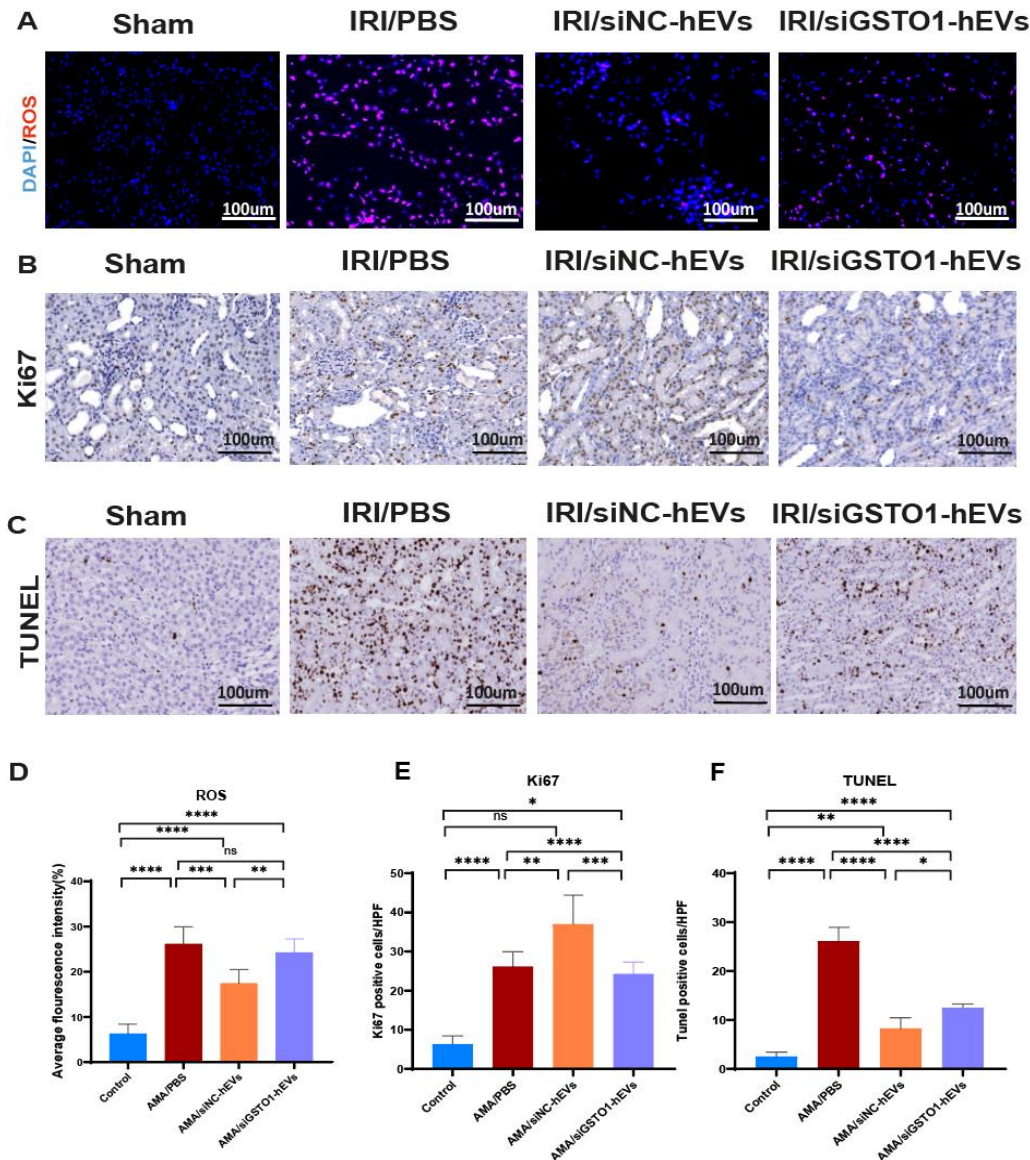


Figure S3. GSTO1 knockdown hypoxic MSC-EVs faint the repair capacity of anti-oxidation, proliferation, and anti-apoptosis *in vivo*.

A: Representative images of ROS fluorescence in rat kidneys in Sham group, IRI & PBS treated group, IRI & hypoxic EVs (AMA/siNC-hEVs), and IRI & hypoxic EVs that GSTO1 was knockdown (AMA/siGSTO1-hEVs), scale bars=100μm; B: Representative images of Ki67 positive cells in the tubulointerstitial of IRI kidneys in Sham group, IRI & PBS treated group, IRI & hypoxic EVs

(AMA/siNC-hEVs), and IRI & hypoxic EVs that GSTO1 was knockdown (AMA/siGSTO1-hEVs), scale bars=100 μ m; C: Representative images of TUNEL staining in rat kidneys in Sham group, IRI & PBS treated group, IRI & hypoxic EVs (AMA/siNC-hEVs), and IRI & hypoxic EVs that GSTO1 was knockdown (AMA/siGSTO1-hEVs), scale bars=100 μ m; D: Statistics of ROS fluorescence in rat kidneys in these 4 groups ; E: Quantification of Ki67 positive cells in rat kidneys in these 4 groups; F: Statistics of TUNEL staining in IRI kidneys in these 4 groups. Data are presented as mean $\pm$ SD, *p < 0.05, **p < 0.01, ***p < 0.001, ****p < 0.0001.

Figure S4

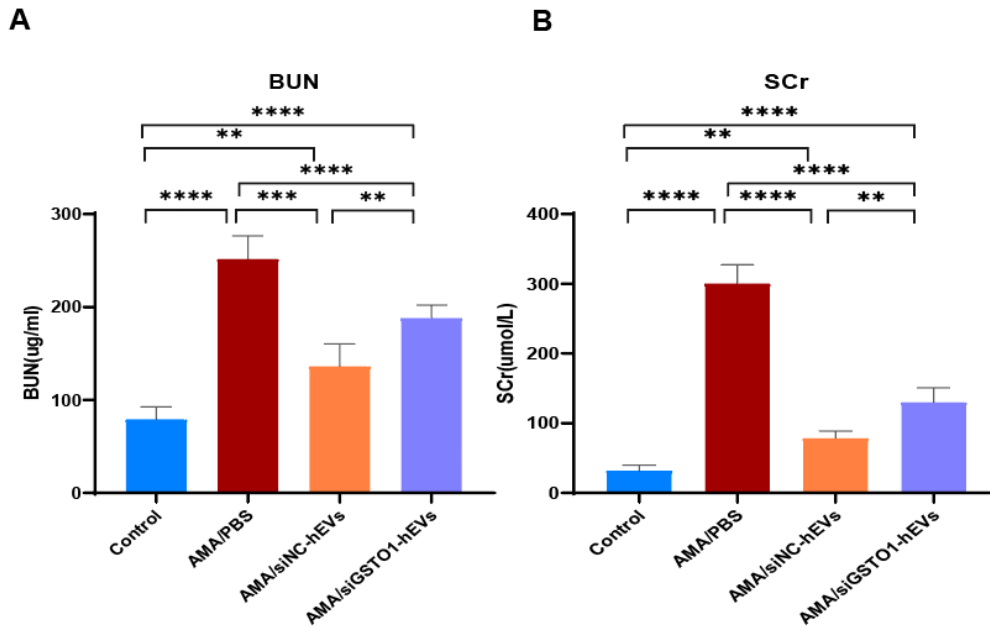


Figure S4. GSTO1 knockdown in hypoxic MSC-EVs diminishes their capacity to repair renal function *in vivo*.

A: Serum creatinine levels in in rat kidneys in Sham group, IRI & PBS treated group, IRI & hypoxic EVs (AMA/siNC-hEVs), and IRI & hypoxic EVs that GSTO1 was knockdown (AMA/siGSTO1-hEVs); B: Serum urea nitrogen levels in rat kidneys in Sham group, IRI & PBS treated group, IRI & hypoxic EVs (AMA/siNC-hEVs), and IRI & hypoxic EVs that GSTO1 was knockdown (AMA/siGSTO1-hEVs). Data are presented as mean $\pm$ SD, *p < 0.05, **p < 0.01, ***p < 0.001, ****p < 0.0001.