

Supplementary Materials

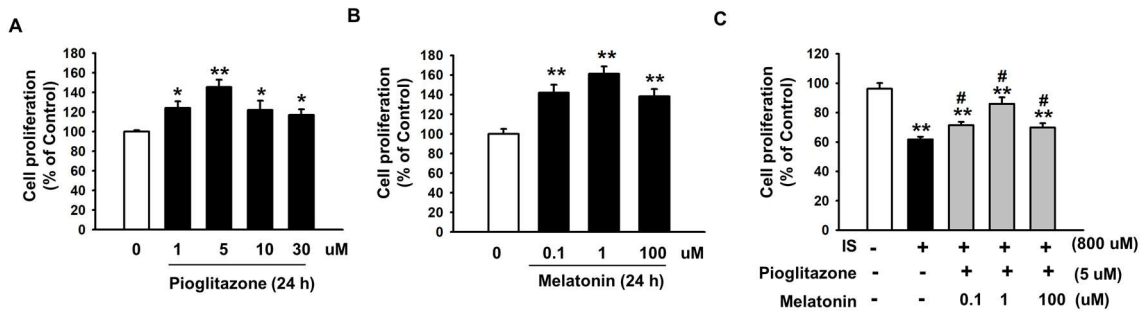


Figure S1. The effect of pioglitazone and melatonin on MSC proliferation. (A) After treatment of MSCs with pioglitazone (0, 1, 5, 10, and 30 μM) for 24 h, cell proliferation was assessed. The values represent the mean \pm SEM. * $p < 0.05$ and ** $p < 0.01$ vs. non-treatment; (B) After treatment of MSCs with melatonin (0, 0.1, 1, 100 μM) for 24 h, cell proliferation was assessed. The values represent the mean \pm SEM. ** $p < 0.01$ vs. non-treatment; (C) After exposure to indoxyl sulfate (IS; 800 μM), cell proliferation was assessed after pretreatment with pioglitazone (5 μM) and melatonin (0, 0.1, 1, 100 μM) for 24 h. The values represent the mean \pm SEM. ** $p < 0.01$ vs. non-treatment, # $p < 0.05$ vs. MSCs treated IS.

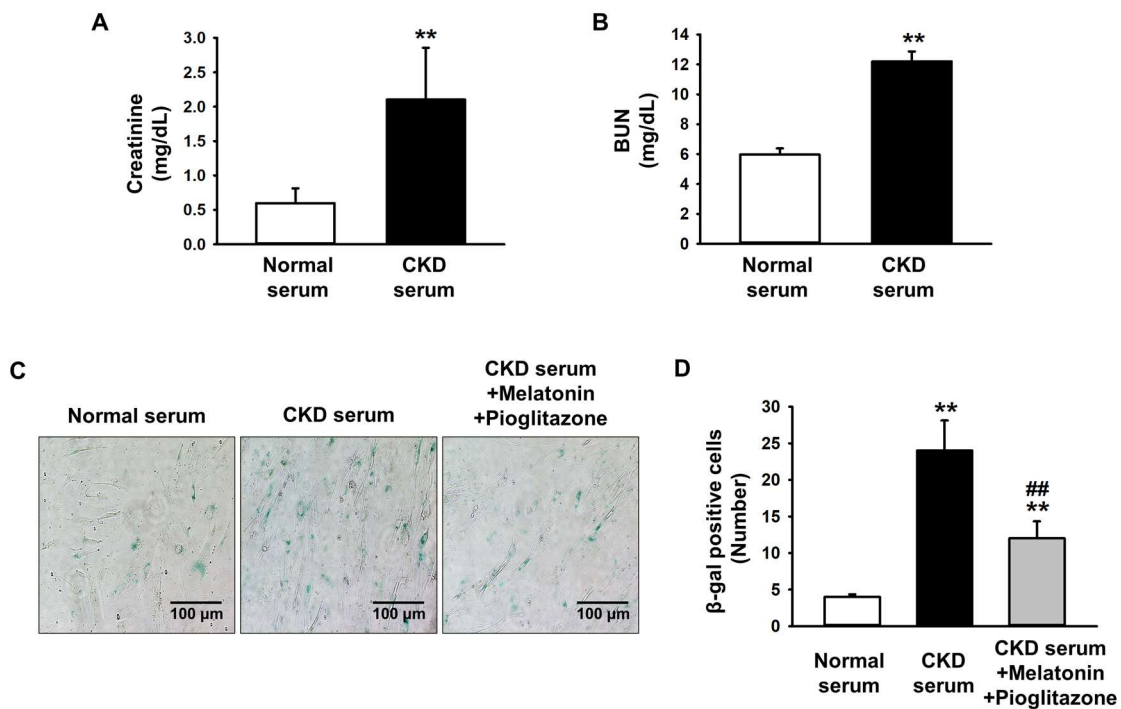


Figure S2. Effect of serum isolated from chronic kidney disease (CKD) mouse model on MSC senescence. (A) The concentration of creatinine in serum isolated from normal (normal serum) and CDK (CKD serum) mice. The values represent the mean \pm SEM. ** $p < 0.01$ vs. normal serum; (B) The concentration of blood urea nitrogen (BUN) in normal and CDK serum. The values represent the mean \pm SEM. ** $p < 0.01$ vs. normal serum; (C) Images of senescence-associated beta-galactosidase (SA- β -gal) staining in MSCs pretreated with melatonin and pioglitazone after exposure to CKD serum; (D) The number of SA- β -gal positive cells. The values represent the mean \pm SEM. ** $p < 0.01$ vs. normal serum, ## $p < 0.01$ vs. CKD serum.

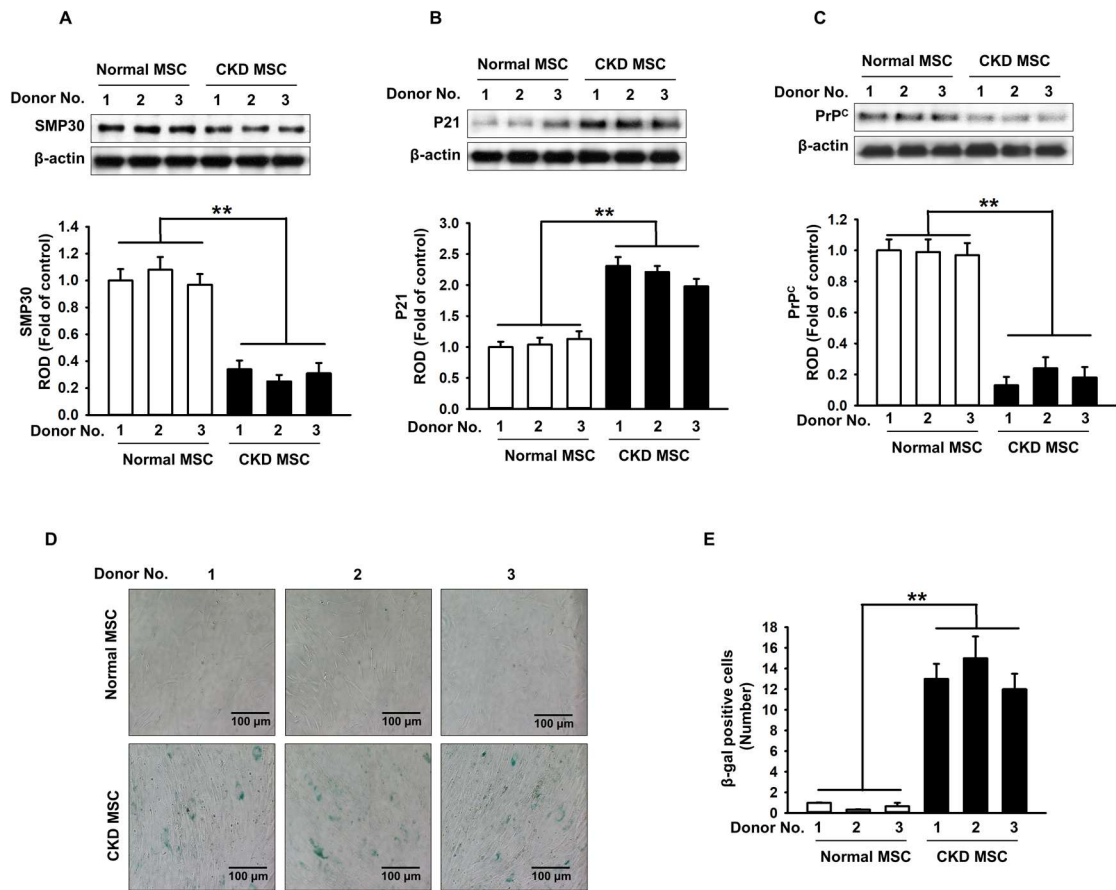


Figure S3. Assessment of senescence in bone marrow-derived MSCs isolated from CKD mice. (A–C) The expressions of SMP30 (A), P21 (B), and PrP^c (C) in bone marrow-derived MSCs isolated from normal (normal MSC; $n = 3$) and CKD (CKD MSC; $n = 3$) mice. The values represent the mean \pm SEM. $** p < 0.01$ vs. Normal MSC; (D) Images of senescence-associated beta-galactosidase (SA- β -gal) staining in normal ($n = 3$) and CKD ($n = 3$) MSCs; (E) The number of SA- β -gal positive cells. The values represent the mean \pm SEM. $** p < 0.01$ vs. normal MSCs.