Figure S1. Grouping of animals. Group 1, control (3 months old); group 2, mimetic aging (3 months old); group 3, mimetic aging+metformin (3 months old); group 4, control (9 months old); group 5, mimetic aging (9 months old); group 6, mimetic aging+metformin (9 months old); group 7, control (15 months old); group 8, mimetic aging (15 months old); and group 9, mimetic aging+metformin (15 months old). D-galactose; Met, metformin.

Figure S2. Grouping of cultured neurons. Group1, D-gal+CC+metformin; group 2, D-gal+U0126+metformin; group 3, D-gal+metformin; group 4, D-gal-induced senescent PC12 cells; and group 5, control. D-galactose; Met, metformin; CC, compound C.
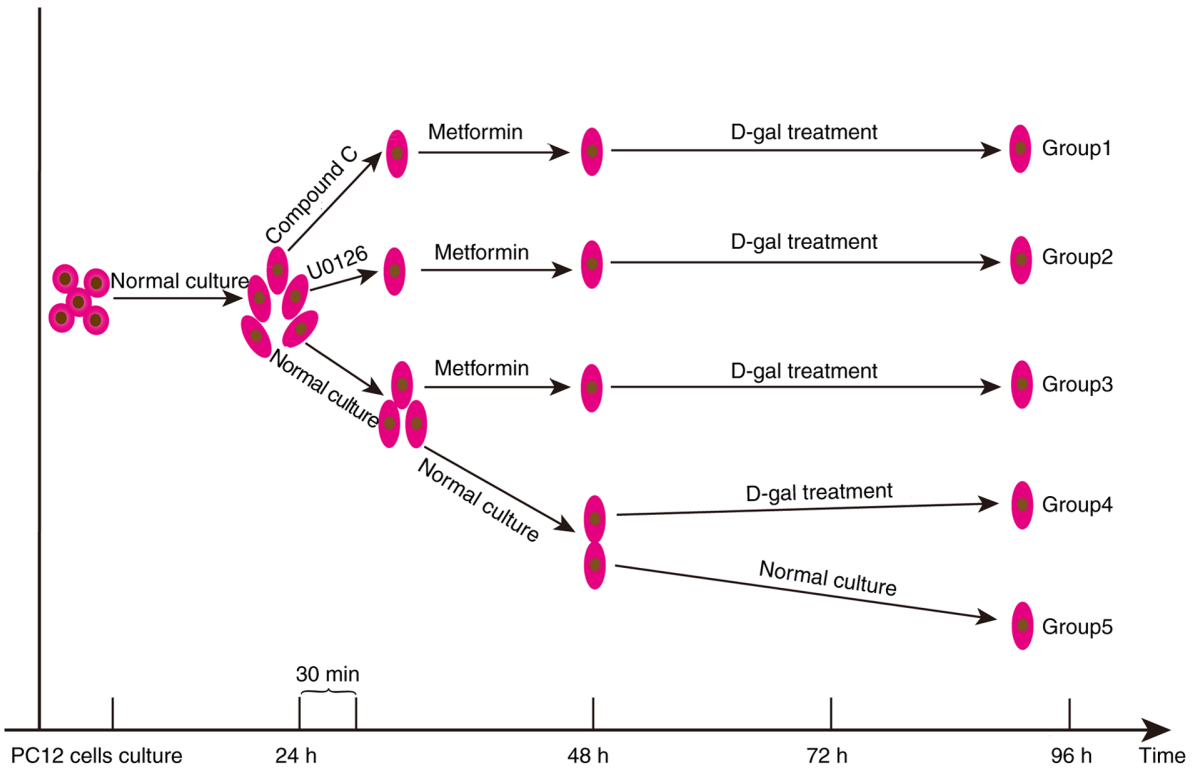
Figure S3. Determination of cellular activity in PC12 cells. The optimal concentration of D-gal was selected by the CCK-8 assay. The concentration of each drug did not affect cell viability. Cell viability was determined by CCK-8 assay after treatment with 20 μM UO126, 20 μM compound C, 100 μM metformin or 15 mg/ml D-gal. Relative cell viabilities are expressed as the means ± SD (n=6). D-galactose; Met, metformin. *P<0.05, ***P<0.001.