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| **Table S1. Levels of glucose and insulin.** | | | | | | | |
| **D + AD-MSCs+DPPD** | **D + ADMSCs** | **D + DPPD** | **Diabetic (D)** | **DPPD** | **Control** |  | |
| 105.50  ±5.17 **bc** | 133.66 ±4.65 **ab** | 174.20  ±5.24 **ab** | 395.20  ±14.33 **a** | 93.33  ± 4.28 | 92.83  ± 3.14 | **Mean**  **±SEM** | **Glucose**  **(mg/ 100 ml)** |
| -73.30 | -66.17 | -55.92 |  |  |  | **%** |
| 16.90  ±0.56 **bc** | 15.47  ±1.05 **ab** | 14.37  ±0.42 **ab** | 8.16  ±0.37 **a** | 17.20  ±0.61 | 17.10  ±0.53 | **Mean**  **±SEM** | **Insulin**  **(µ I U/ml)** |
| +107.10 | +89.58 | +76.10 |  |  |  | **%** |
| 2.92  ± 0.11 **bc** | 3.10  ± 0.12 **ab** | 3.65  ± 0.10 **ab** | 4.94  ± 0.22 **a** | 3.13  ± 0.12 | 2.90  ± 0.13 | **Mean**  **±SEM** | **HbA1c**  **(%)** |
| - 40.89 | - 37.24 | - 26.11 |  |  |  | **%** |

Values expressed as ± SEM (n = 6). a,b & c are Significant differences (*p* ≤ 0.05) compared to control, diabetic untreated and DPPD-diabetic treated groups, respectively. % is the percent of change compared to the diabetic group

as reported in the supplementary tables.

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| **Table S2.** Renal oxidative stress, antioxidant markers levels & viable cells (G0/G1) %. | | | | | | | |
| **D + AD-MSCs+DPPD** | **D +**  **ADMSCs** | **D +**  **DPPD** | **Diabetic (D)** | **DPPD** | **Control** |  | |
| 29.00  **±** 2.14 **bc** | 35.90  **±** 2.14 **ab** | 44.00  **±** 3.11 **ab** | 59.77  **±** 4.93 **a** | 26.50  **±** 2.16 | 24.30  **±** 2.01 | **Mean**  **±SEM** | **MDA**  **(nmol/g)** |
| - 51.48 | - 39.93 | - 26.38 |  | | | **%** |
| 0.50  ±0.03 **bc** | 0.65  ±0.06 **ab** | 0.90  ±0.09 **ab** | 1.50  ±0.19 **a** | 0.45  ±0.05 | 0.46  ±0.02 | **Mean**  **±SEM** | H2O2  **(mM/g)** |
| - 66.66 | - 56.66 | - 40.00 |  | | | **%** |
| 3.02  ± 0.14 **bc** | 4.10  ± 0.83 **ab** | 5.20  ± 0.25 **ab** | 8.90  ± 0.54 **a** | 2.95  ± 0.27 | 2.90  ± 0.24 | **Mean**  **±SEM** | **AGEs**  **(AU/mg protein)** |
| - 66.06 | - 53.93 | - 41.57 |  | | | **%** |
| 33.50  ±2.87 **bc** | 45.50  ±3.16 **ab** | 62.00  ± **3**.24 **ab** | 88.00  ±4.66 **a** | 29.00  ±2.16 | 30.50  ±2.22 | **Mean**  **±SEM** | **XO**  **(nmol/ml)** |
| - 61.93 | - 48.86 | - 29.54 |  | | | **%** |
| 55.30  ± 3.63 **bc** | 48.00  ± 2.90 **ab** | 39.50  ± 3.13 **ab** | 20.30  ± 2.23 **a** | 59.00  ± 3.07 | 57.60  ± 2.45 | **Mean**  **±SEM** | **GSH**  **(mg/gm)** |
| + 172.41 | + 136.45 | + 94.58 |  | | | **%** |
| 13.20  ± 1.73 **bc** | 11.00  ± 0.88 **ab** | 9.40  ± 0.98 **ab** | 3.20  ± 0.04 **a** | 13.90  ± 1.65 | 13.70  ± 1.06 | **Mean**  **±SEM** | **SOD**  **(u/gm)** |
| + 312.50 | + 243.75 | + 193.75 |  | | | **%** |
| 0.63  ± 0.05 **bc** | 0.55  ± 0.03 **ab** | 0.42  ± 0.02 **ab** | 0.20  ± 0.02 **a** | 0.68  ± 0.06 | 0.66  ± 0.04 | **Mean**  **±SEM** | **CAT**  **(u/gm)** |
| + 215.00 | + 175.00 | + 110.00 |  | | | **%** |
| 8.20  ± 2.43 **bc** | 6.90  ± 1.57 **ab** | 4.80  ± 1.52 **ab** | 2.50  ± 0.02 **a** | 8.80  ± 1.92 | 8.70  ± 2.01 | **Mean**  **±SEM** | **GST**  **(Mmol/gm)** |
| + 228.00 | + 176.00 | + 92.00 |  | | | **%** |
| 2.20  ±0.24 **bc** | 1.75  ±0.08 **ab** | 1.30  ±0.06 **ab** | 0.50  ±0.01 **a** | 2.30  ±0.03 | 2.40  ±0.04 | **Mean**  **±SEM** | **TAC**  **(mg/gm)** |
| + 340.00 | + 250.66 | + 160.00 |  | | | **%** |
| 245.00  ± 14.69 **bc** | 225.00  ± 13.42 **ab** | 190.00  ± 11.43 **ab** | 111.00  ± 5.33 **a** | 250.00 ± 16.58 | 256.00 ± 9.87 | **Mean**  **±SEM** | **HO-1**  **(P mol/mg)** |
| + 120.72 | + 102.70 | + 71.17 |  | | | **%** |
| 93.50  ± 3.47 **bc** | 86.40  ± 4.32 **ab** | 77.30  ± 3.22 **ab** | 50.30  ± 2.05 **a** | 95.50  ± 2.53 | 95.20  ± 4.12 | **Mean**  **±SEM** | **G0/G1**  **%** |
| + 85.88 | + 71.76 | + 53.67 |  | | | **%** |
| Values expressed as ± SEM (n = 6). a,b & c are Significant differences (P ≤ 0.05) compared to control, diabetic untreated and DPPD-diabetic treated groups, respectively. % is the percent of change compared to the diabetic group as reported in the supplementary tables. | | | | | | | |

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| **Table S3.** Hepatic oxidative stress, antioxidant markers levels & viable cells (G0/G1) %. | | | | | | | |
| **D + AD-MSCs+DPPD** | **D +**  **ADMSCs** | **D +**  **DPPD** | **Diabetic (D)** | **DPPD** | **Control** |  | |
| 88.00  **±** 3.83 **bc** | 105.50  **±** 3.26 **ab** | 132.00  **±** 4.36 **ab** | 194.00  **±** 7.55 **a** | 80.00  **± 4**.76 | 81.50  **±** 4.37 | **Mean**  **±SEM** | **MDA**  **(nmol/g)** |
| - 54.63 | - 45.61 | - 31.95 |  | | | **%** |
| 0.60  ±0.02 **bc** | 0.70  ±0.03 **ab** | 0.90  ±0.05 **ab** | 2.75  ±0.15 **a** | 0.53  ±0.15 | 0.55  ±0.12 | **Mean**  **±SEM** | H2O2  **(mM/g)** |
| - 78.18 | - 74.54 | - 67.27 |  | | | **%** |
| 3.05  ± 0.16 **bc** | 4.30  ± 0.22 **ab** | 5.80  ± 0.07 **ab** | 9.50  ± 0.35 **a** | 3.00  ± 0.17 | 3.20  ± 0.15 | **Mean**  **±SEM** | **AGEs**  **(AU/mg protein)** |
| - 67.89 | - 54.73 | - 38.94 |  | | | **%** |
| 45.00  ±2.73 **bc** | 52.50  ±2.76 **ab** | 61.00  ±3.52 a**b** | 92.00  ± **4**.16 **a** | 42.50  ±3.26 | 42.00  ±2.54 | **Mean**  **±SEM** | **XO**  **(nmol/ml)** |
| - 51.08 | - 42.93 | - 33.69 |  | | | **%** |
| 80.90  ± 3.76 **bc** | 73.60  ± 3.16 **ab** | 57.50  ± 3.53 a**b** | 32.50  ± 2.45 **a** | 82.80  ± 4.37 | 83.92  ± 4.43 | **Mean**  **±SEM** | **GSH**  **(mg/gm)** |
| + 148.92 | + 126.46 | + 76.92 |  | | | **%** |
| 22.80  ± 2.52 **bc** | 18.95  ± 1.08 **ab** | 16.50  ± 2.62 a**b** | 9.80  ± 0.35 **a** | 24.20  ± 1.83 | 24.50  ± 1.65 | **Mean**  **±SEM** | **SOD**  **(u/gm)** |
| +132.65 | + 93.36 | + 68.36 |  | | | **%** |
| 0.63  ± 0.05 **bc** | 0.55  ± 0.03 **ab** | 0.42  ± 0.02 **ab** | 0.20  ± 0.02 **a** | 0.68  ± 0.06 | 0.66  ± 0.04 | **Mean**  **±SEM** | **CAT**  **(u/gm)** |
| + 215.00 | + 175.00 | + 110.00 |  | | | **%** |
| 10.90  ± 2.03 **bc** | 9.50  ± 1.93 **ab** | 7.80  ± 1.34 **ab** | 3.50  ± 0.06 **a** | 11.07  ± 1.96 | 11.20  ± 2.04 | **Mean**  **±SEM** | **GST**  **(Mmol/gm)** |
| + 211.42 | + 171.42 | + 122.85 |  | | | **%** |
| 3.35  ±0.22 **bc** | 3.10  ±0.06 **ab** | 2.70  ±0.03 **ab** | 1.10  ±0.01 **a** | 3.60  ±0.05 | 3.50  ±0.06 | **Mean**  **±SEM** | **TAC**  **(mg/gm)** |
| + 204.54 | + 181.81 | + 145.45 |  | | | **%** |
| 415.00  ± 15.22 **bc** | 385.00  ± 13.54 **ab** | 330.00  ± 9.87 **ab** | 205.00  ± 10.86 **a** | 425.00 ± 17.52 | 430.00 ± 15.64 | **Mean**  **±SEM** | **HO-1**  **(P mol/mg)** |
| + 102.43 | + 87.80 | + 60.97 |  | | | **%** |
| 90.50  ± 3.28 **bc** | 84.60  ± 3.72 **ab** | 75.30  ± 4.52 **ab** | 55.50  ± 3.26 **a** | 95.30  ± 2.83 | 93.50  ± 2.56 | **Mean**  **±SEM** | **G0/G1**  **%** |
| + 63.06 | + 52.43 | + 35.67 |  | | | **%** |
| Values expressed as ± SEM (n = 6). a,b & c are Significant differences (P ≤ 0.05) compared to control, diabetic untreated and DPPD-diabetic treated groups, respectively. % is the percent of change compared to the diabetic group as reported in the supplementary tables. | | | | | | | |

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| **Table S4. Serum creatinine, urea, and uric acid levels.** | | | | | | | |
| **D + AD-MSCs+DPPD** | **D + ADMSCs** | **D +**  **DPPD** | **Diabetic (D)** | **DPPD** | **Control** |  | |
| 0.47  ± 0.02 **bc** | 0.49  ± 0.04 a**b** | 0.54  ± 0.05 **ab** | 1.43  ± 0.07 **a** | 0.46  ± 0.03 | 0.45  ± 0.03 | **Mean**  **±SEM** | **Creatinine (mg/dl)** |
| - 67.13 | - 65.73 | - 62.23 |  | | | **%** |
| 22.02  ± 0.98 **bc** | 27.50  ±1.87 **ab** | 41.37  ± 2.54 **ab** | 76.75  ± 3.15 **a** | 21.50  ±0.95 | 20.33  ±1.51 | **Mean**  **±SEM** | **Urea**  **(mg/dl)** |
| - 71.30 | - 64.16 | - 46.09 |  | | | **%** |
| 1.52  ± 0.04 **bc** | 1.77  ± 0.08 **ab** | 2.05  ± 0.12 **ab** | 3.33  ± 0.24 **a** | 1.46  ± 0.02 | 1.44  ± 0.04 | **Mean**  **±SEM** | **Uric acid (mg/dl)** |
| - 54.35 | - 46.84 | - 38.43 |  | | | **%** |
| Values expressed as ± SEM (n = 6). a,b & c are Significant differences (P ≤ 0.05) compared to control, diabetic untreated and DPPD-diabetic treated groups, respectively. % is the percent of change compared to the diabetic group as reported in the supplementary tables. | | | | | | | |

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| **Table S5. Serum AST, ALT, ALP, γ-GT, total bilirubin, total proteins, albumin & globulins levels.** | | | | | | | |
| **D + AD-MSCs+DPPD** | **D +**  **AD-MSCs** | **D +**  **DPPD** | **Diabetic (D)** | **DPPD** | **Control** |  | |
| 61.90  ± 2.65 **bc** | 67.50  ± 3.01 **ab** | 85.50  ± 3.22 **ab** | 119.25  ± 4.13 **a** | 61.00  ± 2.88 | 59.66  ± 3.54 | **Mean**  **±SEM** | **AST**  **(u/l)** |
| - 48.09 | - 43.39 | - 28.30 |  | | | **%** |
| 32.90  ± 2.45 **bc** | 37.33  ± 2.98 **ab** | 47.00  ± 3.53 **ab** | 67.08  ± 4.73 **a** | 32.50  ± 2.03 | 31.50  ± 2.04 | **Mean**  **±SEM** | **ALT**  **(u/l)** |
| - 50.59 | - 44.35 | - 29.93 |  | | | **%** |
| 250.00  ± 13.98 **bc** | 314.00  ± 17.42 **ab** | 341.00  ± 21.15 **ab** | 445.00  ± 32.33 **a** | 245.00 ±12.26 | 241.00  ± 10.15 | **Mean**  **±SEM** | **ALP**  **(u/l)** |
| - 43.82 | - 28.79 | - 23.37 |  | | | **%** |
| 33.50  ± 1.54 **bc** | 36.00  ± 2.36 **ab** | 46.66  ± 2.27 **ab** | 80.60  ± 4.23 **a** | 31.66  ± 1.76 | 31.50  ± 1.25 | **Mean**  **±SEM** | **γ-GT**  **(u/l)** |
| -58.43 | - 55.33 | - 42.10 |  | | | **%** |
| 0.61  ± 0.03 **bc** | 1.02  ± 0.04 **ab** | 1.52  ± 0.07 **ab** | 2.30  ± 0.12 **a** | 0.56  ± 0.02 | 0.55  ± 0.02 | **Mean**  **±SEM** | **Total bilirubin (mg/dl)** |
| - 73.47 | - 55.65 | - 33.91 |  | | | **%** |
| 7.00  ± 0.36 **bc** | 6.50  ± 0.44 **ab** | 5.72  ± 0.27 **ab** | 3.30  ± 0.12 **a** | 7.30  ± 0.23 | 7.33  ± 0.42 | **Mean**  **±SEM** | **Total proteins (g/dl)** |
| + 112.12 | + 96.96 | + 73.33 |  | | | **%** |
| 4.06  ± 0.11 **bc** | 3.81  ± 0.06 **ab** | 3.22  ± 0.14 **ab** | 2.20  ± 0.03 **a** | 4.37  ± 0.09 | 4.20  ± 0.13 | **Mean**  **±SEM** | **Albumin (g/dl)** |
| + 84.54 | +73.18 | + 46.36 |  | | | **%** |
| 2.65  ± 0.11 **bc** | 2.35  ± 0.12 **ab** | 1.90  ± 0.07 **ab** | 1.08  ± 0.12 **a** | 2.80  ± 0.11 | 2.87  ± 0.10 | **Mean**  **±SEM** | **Globulins (g/dl)** |
| +145.37 | +117.59 | +75.92 |  | | | **%** |
| Values expressed as ± SEM (n = 6). a,b & c are Significant differences (P ≤ 0.05) compared to control, diabetic untreated and DPPD-diabetic treated groups, respectively. % is the percent of change compared to the diabetic group as reported in the supplementary tables. | | | | | | | |