





**Appendix 1.** Randomization of rats using the RAND function in Microsoft Excel (version 13.0).In this study, 30 rats were randomly assigned to five experimental groups (0, 1, 4, 7, and 10), with 6 rats per group, using the RAND function in Microsoft Excel. The randomization process was performed as follows:(A) Animal IDs were entered in column A, and the group labels (in a fixed, non-random order) were listed in column B.(B) In cell C2, the formula =RAND() was used to generate a random number between 0 and 1.(C) The formula was then dragged down from C2 to C31 to generate a column of 30 random numbers.(D) Columns B (group labels) and C (random numbers) were selected.(E) Using the “Sort” function in Excel (Data → Sort), column B was sorted based on the values in column C. This procedure randomly reassigned the group labels to the animal IDs. For example, Rat 1 was assigned to Group 1, Rat 2 to Group 7, and so on (see panel E).

|  |  |  |
| --- | --- | --- |
| Cit concentration (µmol/L) | OD540 nm | |
| Mean | SE |
| 0 | 0.084 | 0.01 |
| 20 | 0.167 | 0.02 |
| 40 | 0.235 | 0.04 |
| 100 | 0.428 | 0.06 |
| 200 | 0.873 | 0.06 |

**Appendix 2.** Cit standard curve.