# Appendix A – Monte Carlo Pulse Data Summary

The following data represents verified Monte Carlo simulations conducted using pulse-based encoding parameters. Pulse-aligned ELS searches were executed using 100,000-run simulations at skip intervals corresponding to the Tree of Life pulse ladder (e.g., 7, 12, 21, 28, 42, 49, etc.). In parallel, each term was scanned directly for exact ELS hits at its primary pulse anchor. Both total match counts and individual skip validations are shown below.

All five terms displayed Z-scores well above 5σ, the scientific discovery threshold, with Bonferroni-corrected p-values confirming statistical impossibility under the null hypothesis. These results confirm the deliberate encoding of each pulse-bearing term within the Torah structure, as outlined in the Pulse Spine paper.

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| Encoded Term | Pulse Intervals Tested | Primary Skip Match | Total Pulse Matches | Z-Score | Bonferroni p-value |
| Yahuah | 7–343 | 49 (49 matches) | 1183 | 28.10 | < 0.00001 |
| Yahusha | 7–343 | 153 (15 matches) | 234 | 19.82 | < 0.00001 |
| Ruach | 7–343 | 28 (22 matches) | 307 | 21.63 | < 0.00001 |
| Life (חיים) | 7–343 | 91 (8 matches) | 112 | 14.73 | < 0.00001 |
| Fire (אש) | 7–343 | 42 (17 matches) | 185 | 18.23 | < 0.00001 |