## SUPPLEMENTARY MATERIAL



## Figure S1. Week by week fasting regiment during phase 3.

DIM= Sunday; LUN= Monday; MAR= Tuesday; MER= Wednesday; JEU= Thursday; VEN= Friday; SAM= Saturday; LE PLUS LONG= Longest fasting; Cétose= Ketosis.



**Figure S2. Average glucose profile during the patient's 83h fast.** Data are presented median / 25-75% IQR / 10-90%.

During the participant's 83-hour fast, no hypoglycemic events were observed, with CGM data indicating 100% time-in-range (3.9–10.0 mmol/L). The participant reported maintaining her usual daily activities without experiencing a significant decline in energy levels. She noted that the most challenging aspect of the fast was related to environmental cues, such as food availability and observing others eating. It is to be noted that the participant had previously engaged in multiple shorter fasts, which may have facilitated a more efficient metabolic response during this extended fasting period. Indeed, repeated exposure to fasting could have promote ketosis related adaptation, enhancing the ability to utilize ketone bodies as an energy substrate. Although ketone levels were not measured during the fast, it is likely that blood beta-hydroxybutyrate concentrations exceeded 2.0 mmol/L during the later stages of fasting (Cahill, 2006; Annu. Rev. Nutr., 26(1), 1-22). This metabolic shift may have contributed to the participant's preserved energy levels, as ketone bodies can serve as an alternative fuel source for organs such as the brain, heart, and kidneys during fasting and carbohydrate restriction.

| Table S1. Sleep quantity and quanty during phase 1, 2 and 5. |               |               |               |
|--|---------------|---------------|---------------|
| Variables  | Phase 1       | Phase 2       | Phase 3       |
| Time in bed<br>(h)   | $7.5 \pm 1.9$ | $7.5\pm0.6$   | $8.2 \pm 0.8$ |
| Core sleep<br>(h)  | $1.77\pm2.27$ | $1.07\pm1.7$  | $2.52\pm1.95$ |
| Deep sleep<br>(h)  | $0.32\pm0.41$ | $0.27\pm0.46$ | $0.60\pm0.48$ |
| REM sleep<br>(h)   | $0.61\pm0.77$ | $0.46\pm0.76$ | $1.00\pm0.81$ |

Table S1. Sleep quantity and quality during phase 1, 2 and 3

All metrics are derived from the patient's smart watch; Core = Stage N3 or slow-wave sleep; Deep = Stages N1 and N2 sleep; REM = Rapid eye movement sleep. More information about these measurements is provided here: https://www.apple.com/healthcare/docs/site/Estimating\_Sleep\_Stages\_from\_Apple\_Watch\_Sept\_2023.pdf