Table 4. Mycoprotein effect on serum uric acid levels and gut health.

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| (48)        | The effects of replacing mycoprotein with highly processed red meat on gastrointestinal and cardiometabolic health. | Investigator-blind randomized crossover control trial | 20 | 8 weeks | England | The study comprised of 3 phases  
Phase 1 (2 weeks) red and processed meat (Meat)  
Wash out (4 weeks)  
Phase 2 (2 weeks) mycoprotein based foods participants consumed 240g (uncooked 2121 weight) of either red and processed meat products or equivalent weight of mycoprotein | Stool weight:  
Phase 1: Significant decrease (-51.01 ± 13.40, P < 0.01)  
Phase 2: Non-significant increase (+32.63 ± 15.70g, P = 0.12)  
Microbial composition:  
Change in relative abundance from baseline  
Significant influences on number of genera Lactobacillus spp. (+0.02)  
Roseburia spp (-2.01)  
Oscillibacter spp. (+0.04) | This work demonstrated an enhancement in the genus Lactobacilli following chronic mycoprotein consumption. mycoprotein may be a beneficial alternative to meat in the context of gut health. However further larger scale human randomized trials are needed |
| (43)        | To study the effect of mycoprotein ingestion on blood uric acid in a dose response manner | Randomized, single-blind, cross-over design | 15 | 240 minutes | England | Intervention group: Mass-matched bolus of mycoprotein MYC (20, 40, 60 or 80g)  
Control group: 20 g milk protein | Fasting plasma uric acid concentration similar in all conditions  
Postprandial period:  
MYC20: significant decrease at 150 min (77±4)  
MYC40- remained unaltered (85±7)  
MYC60- increased modestly by 30 to 150 min (86±5)  
MYC80- increase by 30 min, remaining elevated throughout | The study suggested that moderate does of mycoprotein (≤40 g) does not modulate serum uric acid concentrations. |
To investigate the impact of replacing mycoprotein with meat/fish (either low/high nucleotide content) during a one-week intervention on blood uric acid levels in healthy adults.

**Randomized parallel group trial**

- **Intervention group**: nucleotide-depleted mycoprotein (LN-MYC; n = 10)
- **Control group**: Meat/fish (CON; n = 10)

With a total daily intake of (1·2 g per kg bm)

- **Constant serum uric acid concentration in the** CON (~296 µmol. L−1) and LN-MYC (~282 µmol. L−1) groups
- In HN-MYC, serum uric acid concentrations steadily increased from baseline (295 ± 55 µmol. L−1) at 2 (402 ± 59 µmol. L−1; P < 0·05)

A high dietary nucleotide diet resulted in a sustained increase in blood uric acid levels. There was no effect on insulin sensitivity or glycemic control, however.

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To investigate how a nucleotide-rich mixed meal affected postprandial circulatory uric acid levels.

**Randomized, controlled, double-blind, crossover trial**

- **Intervention**: High nucleotide MYC meal. (H-NU) 8.83% of MYC dry weight
- **Control**: MYC depleted mycoprotein meal/ (L-NU) 1.96% of MYC dry weight

- **Intervention (H-NU)** 12% increase from 284 ± 13 to 319 ± 12 µmol·L −1 after 210 min
- **Control (L-NU)** Decreasing by 7% (from 279 ± 16 to 257 ± 14 µmol·L −1)

A nucleotide-rich mixed meal causes an increase in blood uric acid concentrations for around 12 hours before returning to normal after 24 hours.

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The effect of twice-daily nucleotide-rich mixed-meal consumption on postabsorptive blood uric acid levels was studied for one week.

**Randomized, controlled, parallel-group trial**

- **Intervention** High nucleotide MYC meal. (H-NU) 8.83% of MYC dry weight
- **Control** Nucleotide rich meal, thrice daily, 7 d fully controlled eucaloric diet

Serum uric acid levels remained unchanged in low Diet group

- Increase in uric acid concentration in high group (from 295 ± 17 to 472 ± 29 µmol·L −1 by day 6; P < 0.05)

According to the findings, consuming nucleotide mixed meals causes postabsorptive blood uric acid levels to rise over clinically tolerable limits.
| Control: MYC depleted mycoprotein meal/ (L-NU) | 1.96% of MYC dry weight |