**Online supporting material for the article entitled: “Effect of fibre additions to flatbread flour mixes on glucose kinetics: a randomized controlled trial”.**

Supplemental Table 1: Inclusion and exclusion criteria

|  |
| --- |
| **Inclusion criteria** |
| * Healthy male subjects between ≥ 18 and ≤ 50 years of age
 |
| * BMI of ≥ 20.0 and ≤ 28.0 kg/m2
 |
| * Apparently healthy: no medical conditions which might affect study measurements, absorption, metabolism and distribution (including diabetes type 1 and type 2, gastrointestinal dysfunction, gastrointestinal surgery and inflammatory diseases)
 |
| * Fasting blood glucose value of volunteer is ≥ 3.4 and ≤ 6.1 mmol/l (i.e. 62-110 mg/dl) at screening
 |
| * Having a general practitioner
 |
| * Agreeing to be informed about medically relevant personal test-results by study physician
 |
| * Informed consent signed
 |
| * Willing to comply to study protocol during study
 |
| * Accessible veins on arms as determined by examination at screening
 |
| **Exclusion criteria** |
| * Use of antibiotics within 3 months before first day of intervention (day 01); use of any other medication within 14 days before day 01
 |
| * Blood donation in the past 3 months
 |
| * Reported participation in another nutritional or biomedical trial 3 months before the pre-study examination or during the study
 |
| * Reported participation in night shift work two weeks prior to pre-study investigation or during the study. Night work is defined as working between midnight and 6.00 AM.
 |
| * Reported intense sporting activities ≥ 10 h/w
 |
| * Consumption of ≥ 21 alcoholic drinks in a typical week
 |
| * Not being used to eat breakfast
 |
| * Reported use of any nicotine containing products in the six months preceding the study and during the study itself
 |
| * Reported use of medically prescribed diet or slimming diet
 |
| * Not used to eat 3 meals a day
 |
| * Vegetarian
 |
| * Reported weight loss / gain ≥10% of body weight in the six months before screening
 |
| * Positive drug screen or alcohol breath test during the screening and /or at the day before the first intervention day.
 |
| * Being an employee of Unilever, QPS or UMCG
 |
| * Allergy or intolerance to food products and aversion to food products provided during the study
 |

Supplemental Table 2: Sampling scheme (in min.)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **-60** | **-30** | **-5** | **15** | **30** | **45** | **60** | **75** | **90** | **105** | **120** | **150** | **180** | **210** | **240** | **270** | **300** | **330** | **360** |
| **a** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **b** |  | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** |  |  |  |  |
| **c** |  | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** |  | **x** |

a = total blood glucose, fractional enrichment of D-[U-13C] glucose, and D-[6,6-2H2] glucose; b = insulin;

c = GLP-1 and GIP

Supplemental Table 3: Cumulative appearance of exogenous glucose and total glucose, and glucose from the liver in the peripheral circulation, and cumulative disappearance of glucose from the peripheral circulation (g) (mean and 95% CIs).

|  | Control | GG2 | GG4 |
| --- | --- | --- | --- |
| Mean | Confidence interval | Mean | Confidence interval |
|  |
| Cum RaE0-120 | 22.3 | 22.0 | 18.2; 25.8 | 19.9 | 17.0; 22.8 |
| Cum RaE0-240 | 42.9 | 41.7 | 37.5; 45.9; 45.9 | 38.6 | 35.1; 42.0 |
| Cum RaT0-120 | 40.4 | 38.4 | 33.9; 42.8 | 35.2 | 32.0; 38.4 |
| Cum RaT0-240 | 75.3 | 70.9 | 65.5; 76.2 | 64.7 | 60.7; 68.8 |
| Cum EGP0-120 | 18.2 | 16.5 | 15.4; 17.5 | 15.3 | 14.3; 16.3 |
| Cum EGP0-240 | 32.6 | 29.3 | 27.6; 31.1 | 26.2 | 24.6; 27.9 |
| Cum RdT0-120 | 38.4 | 36.7 | 32.1; 41.3 | 33.4 | 30.2; 36.5 |
| Cum RdT0-240 | 75.1 | 70.8 | 65.1; 76.4 | 64.0 | 59.9; 68.1 |

CI= 95% confidence interval; data in cells shown in grey to highlight outcome where 0 is not contained within the CI



Supplemental Figure 1: Effects of flatbread consumption with different amounts of guar gum and legume flour on GCR (mean ± SEM). Control = closed circle, GG2 = square and GG4 = triangle