

## Figure legends:

**Figure 1. Quantitative GC-MS measurement of erythritol and erythronate in dried blood spots from 3 healthy donors.** After ingestion of 50 g erythritol (blue lines), an immediate increase of erythronate concentrations was observed (red lines).

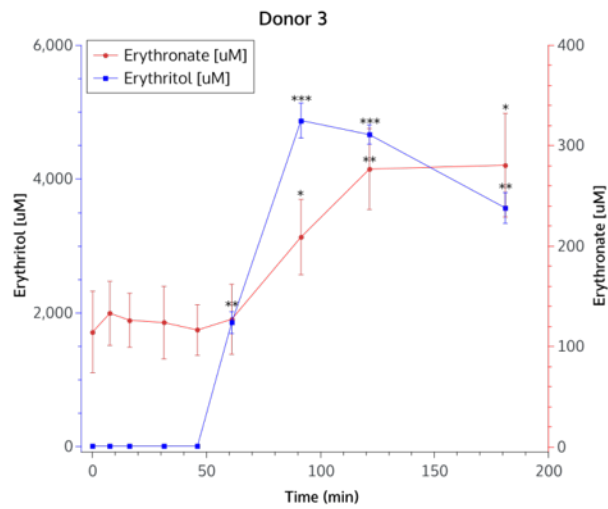
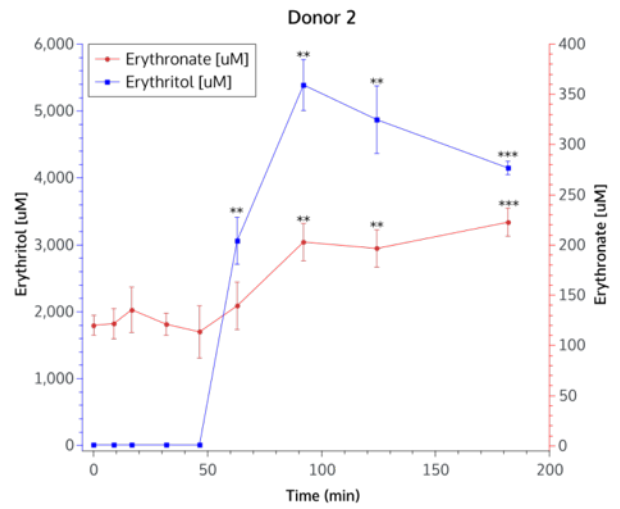
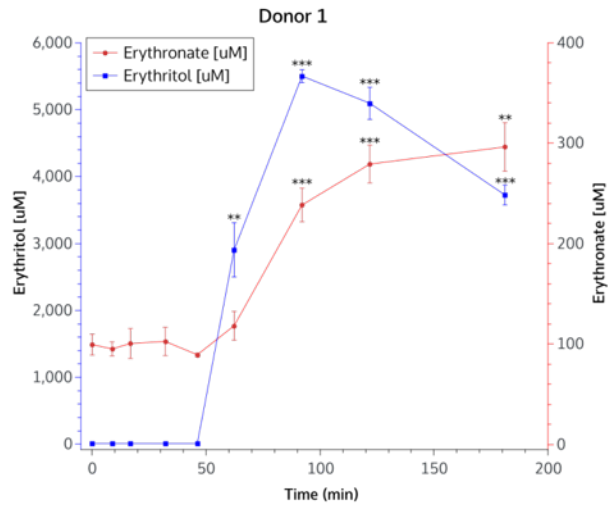
**Figure 2. M4 erythritol enrichment after supplementing of [U-<sup>13</sup>C<sub>6</sub>]-Glucose in whole blood.** 120 minutes post-tracer addition, significant amounts of fully labeled (M4) erythritol were synthesized by endogenous activity in the blood cells. (n.s. not significant ( $p > 0.05$ ), \*  $p = 0.01$ , by Welch's t-test)

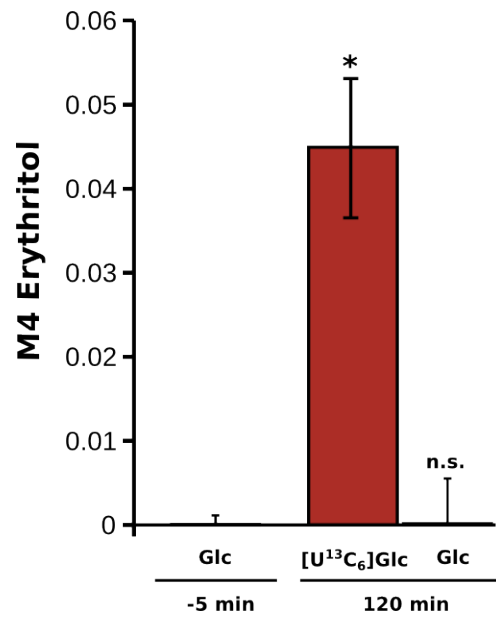
**Figure 3. Atom transitions within the pentose phosphate pathway (PPP) and erythritol labeling from glucose.** A. Erythritol (Ery) is synthesized from glucose via PPP from glucose-6-phosphate (G6P). First, a [1,2-<sup>13</sup>C<sub>2</sub>] glucose tracer, which contains stable isotopes at the first two positions, was used. Based on the atom transitions of the oxidative and reductive PPP, no significant isotopic enrichment in erythritol was expected. Second, a [3,4-<sup>13</sup>C<sub>2</sub>] glucose tracer was applied; in this case, the synthesis of M2 erythritol isotopologues was predicted. Third, a [6-<sup>13</sup>C<sub>1</sub>] glucose tracer was applied.

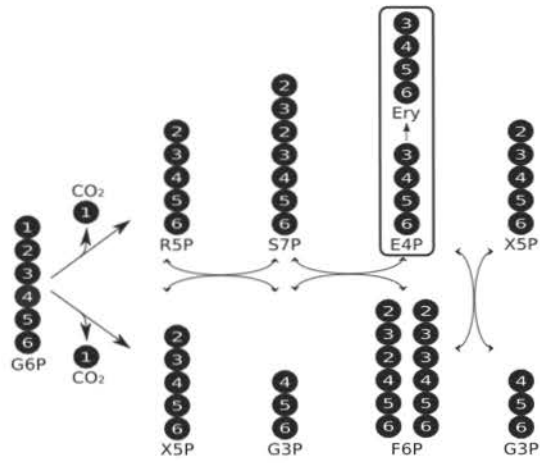
B. First, incubation of human blood cells with [1,2-<sup>13</sup>C<sub>2</sub>] glucose did not produce significant amounts of enriched erythritol. Second, as expected, M2 erythritol isotopologues emerged after addition of the 1,2-<sup>13</sup>C<sub>2</sub> glucose tracer to the blood cells. Third, the expected appearance of M1 erythritol isotopologues was observed after the [6-<sup>13</sup>C<sub>1</sub>] glucose tracer was applied.

Notes: 1,2-<sup>13</sup>C<sub>2</sub>-Glucose (1,2-<sup>13</sup>C<sub>2</sub>Glc) yielding non-labeled erythritol (M0 erythritol), 3,4-<sup>13</sup>C<sub>2</sub>-Glucose (3,4-<sup>13</sup>C<sub>2</sub>Glc) yielding 2 times labelled erythritol (M2 erythritol), and, 6-<sup>13</sup>C<sub>1</sub>-Glucose (6-<sup>13</sup>C<sub>1</sub>Glc) yielding 1 times labeled erythritol (M1 erythritol), after incubation with the respective tracer for 120 min.

n.s., not significant  $p > 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; by Student's t-test





**A****B**