Supplementary Information

Polyphenol combinations improve quercetin absorption and inhibit carbohydrate digestion while reducing glucose transport

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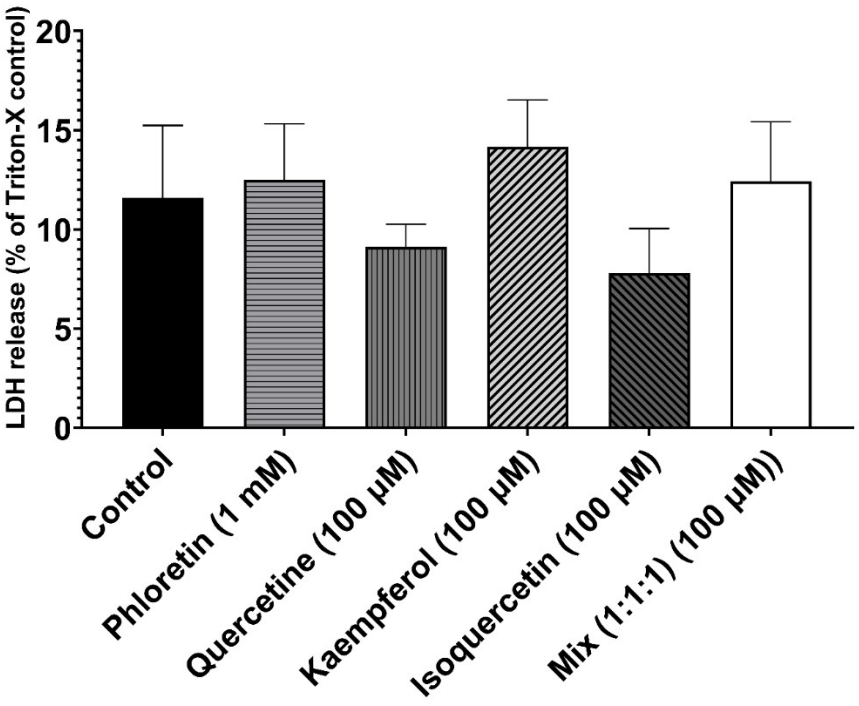
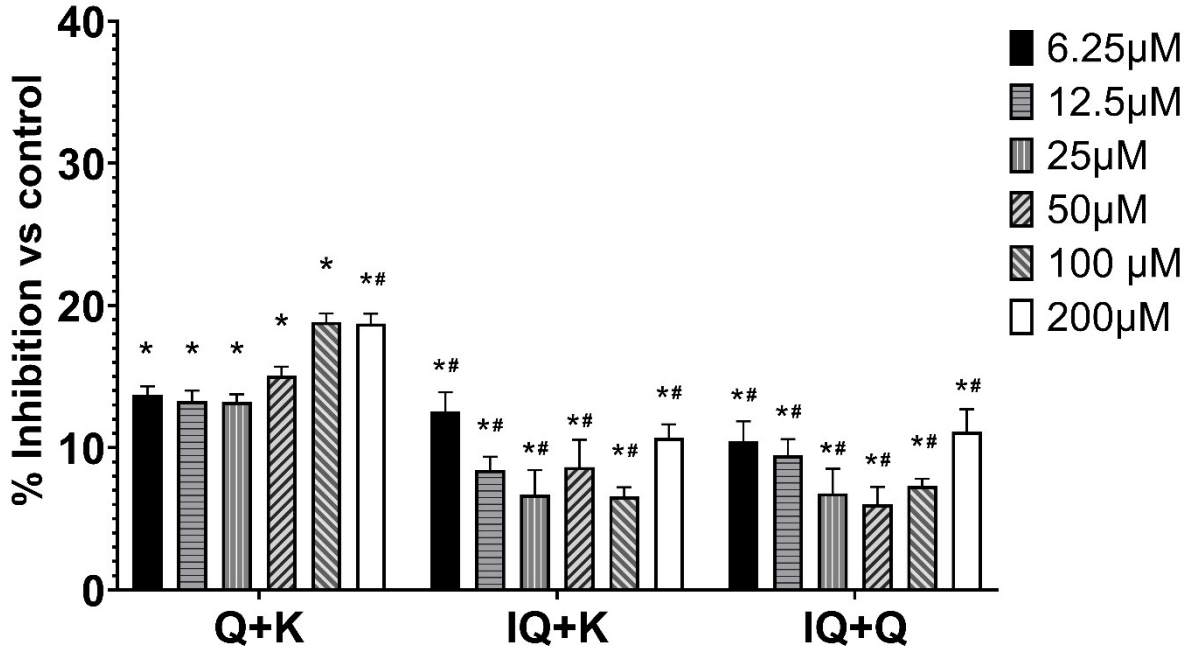
Additional data describing the LDH release (section 1), the inhibition of α-amylase (section 2) and α-glucosidase (section 3) across all tested concentrations of the individual polyphenols quercetin, isoquercetin, and kaempferol, as well as their combinations.

1. LDH results

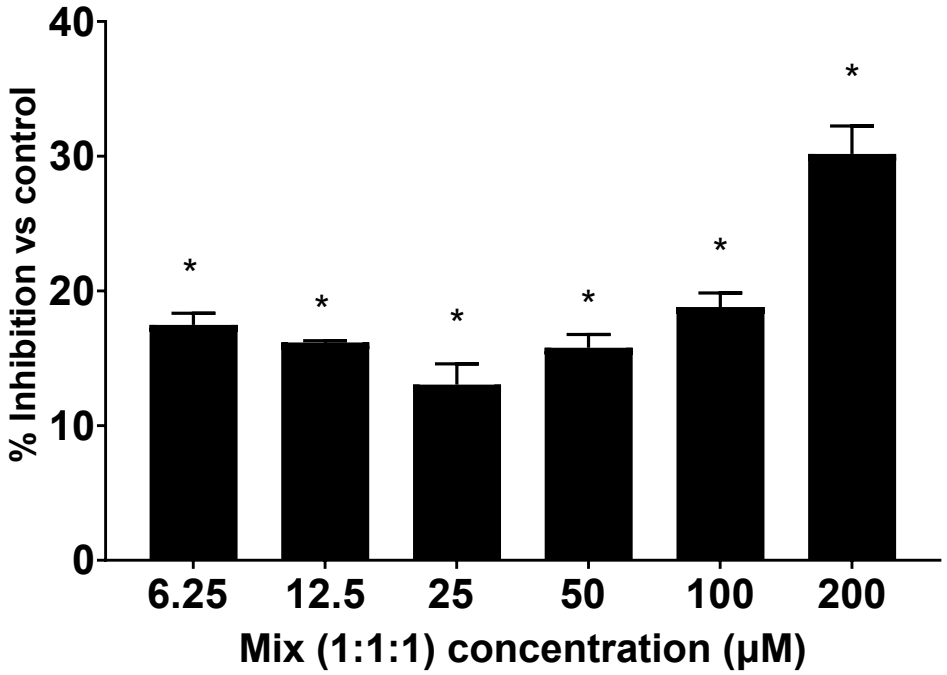


Supplementary Figure 1. Percentage LDH release compared to triton-x exposed cells, *Bars show mean ± SEM (N = 3). $p < 0.05$ vs. control, one-way ANOVA with Dunnett's post hoc test.*

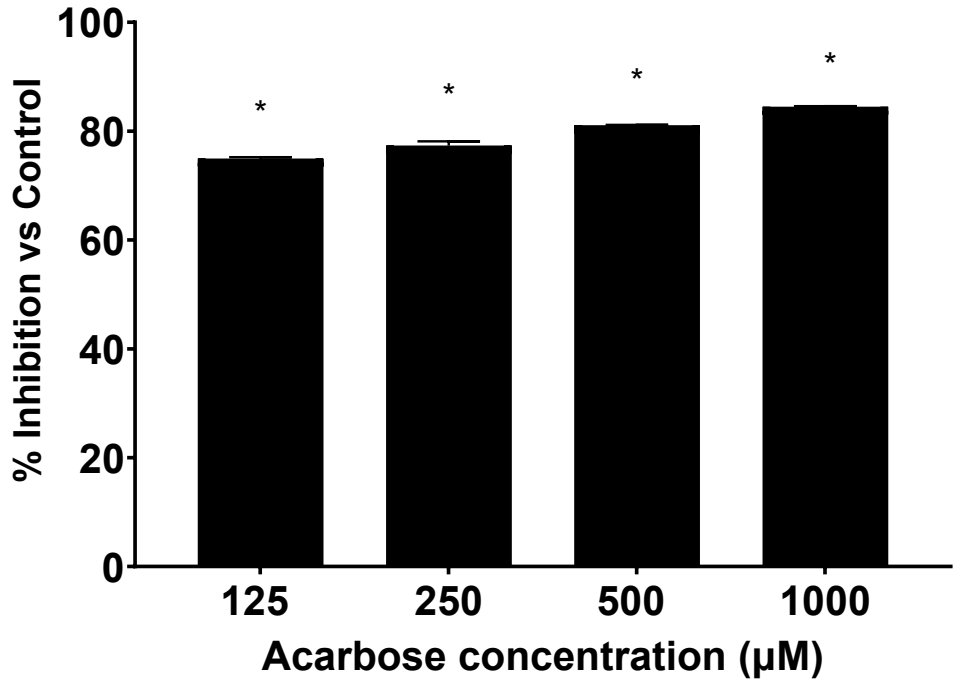
2. Inhibition of α-amylase



*Supplementary Figure 2: α-Amylase inhibition by combinations of quercetin and kaempferol (Q+K), isoquercetin and kaempferol (IQ+K), and isoquercetin and quercetin (IQ+Q). Bars show mean ± SEM (N = 3). p < 0.05 vs. control, one-way ANOVA with Dunnett's post hoc test. * Indicates a statistically significant difference compared to the control (p < 0.05), # indicates a statistically significant difference compared to the mixwhen compared to the mixture at the same concentration.*

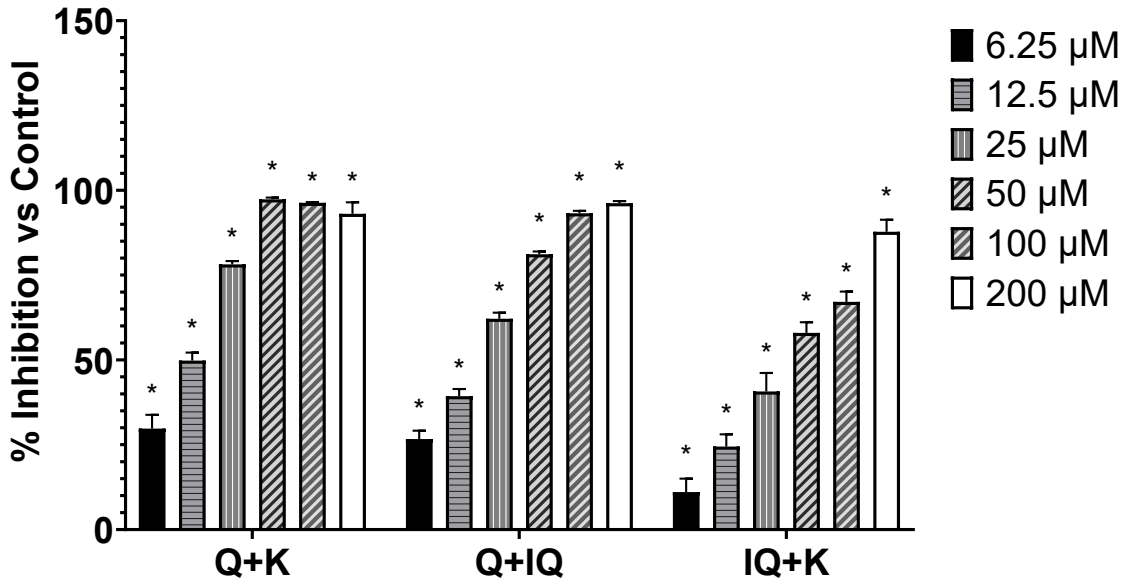


Supplementary Figure 3. α-Amylase inhibition by the mixture of quercetin, kaempferol, and isoquercetin (1:1:1 ratio). Bars show mean ± SEM (N = 3). p < 0.05 vs. control, one-way ANOVA with Dunnett's post hoc test.

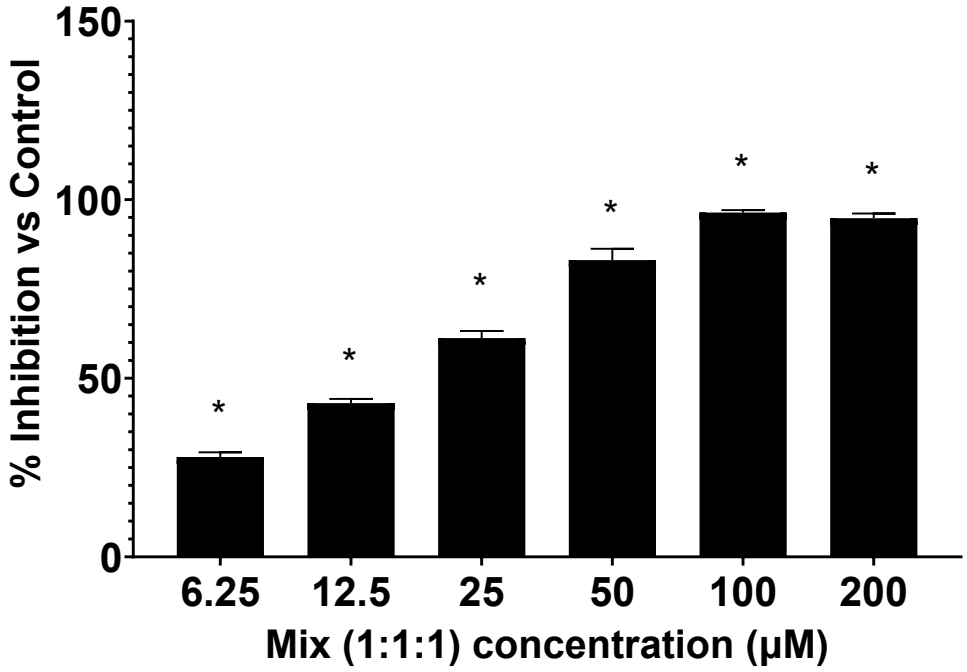


Supplementary Figure 4. α-Amylase inhibition by acarbose. Bars show mean ± SEM (N = 3). p < 0.05 vs. control, one-way ANOVA with Dunnett's post hoc test.

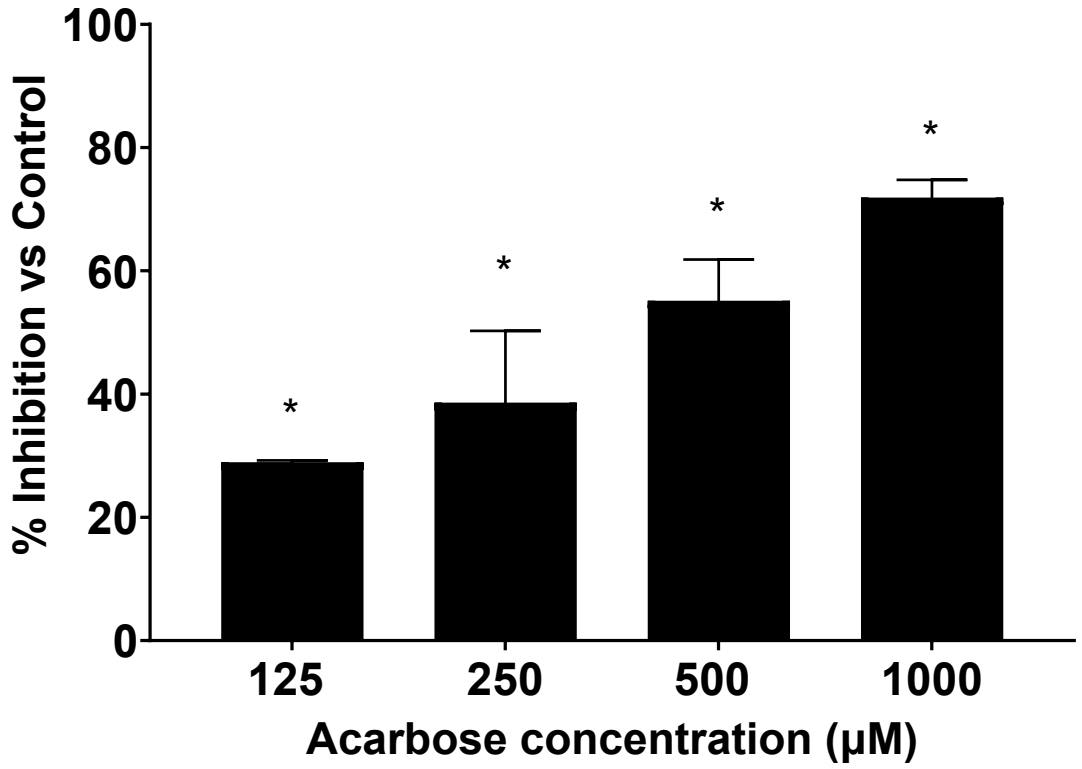
2. Inhibition of α-glucosidase



Supplementary Figure 5: α-Glucosidase inhibition by combinations of quercetin and kaempferol (Q+K), isoquercetin and kaempferol (IQ+K), and isoquercetin and quercetin (IQ+Q). Bars show mean ± SEM (N = 3). p < 0.05 vs. control, one-way ANOVA with Dunnett's post hoc test.



Supplementary Figure 6. α-Glucosidase inhibition by the mixture of quercetin, kaempferol, and isoquercetin (1:1:1 ratio). Bars show mean ± SEM (N = 3). p < 0.05 vs. control, one-way ANOVA with Dunnett's post hoc test.



Supplementary Figure 7. α-Glucosidase inhibition by acarbose. Bars show mean ± SEM (N = 3). p < 0.05 vs. control, one-way ANOVA with Dunnett's post hoc test.