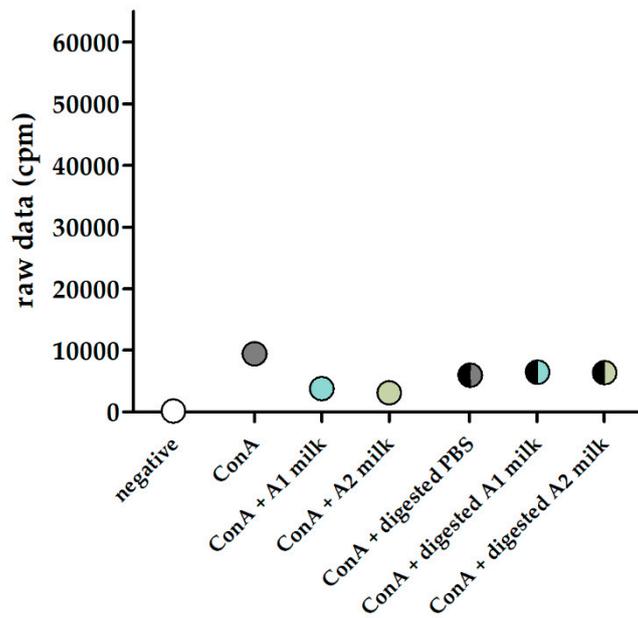
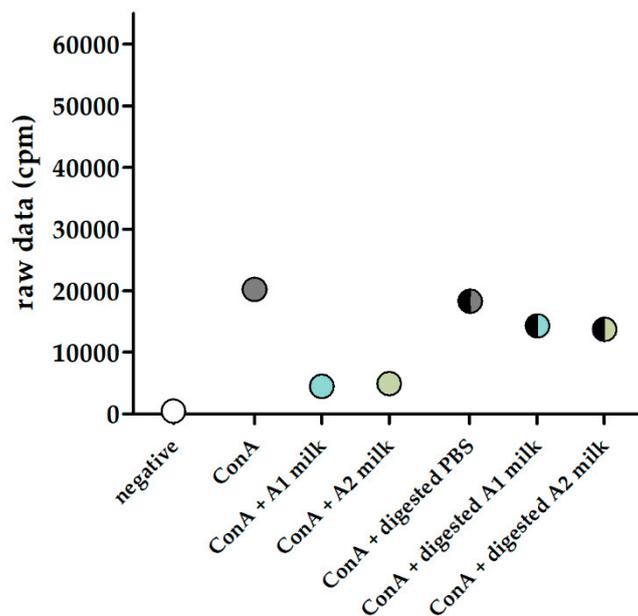


Milk and Digested Milk Donor 1



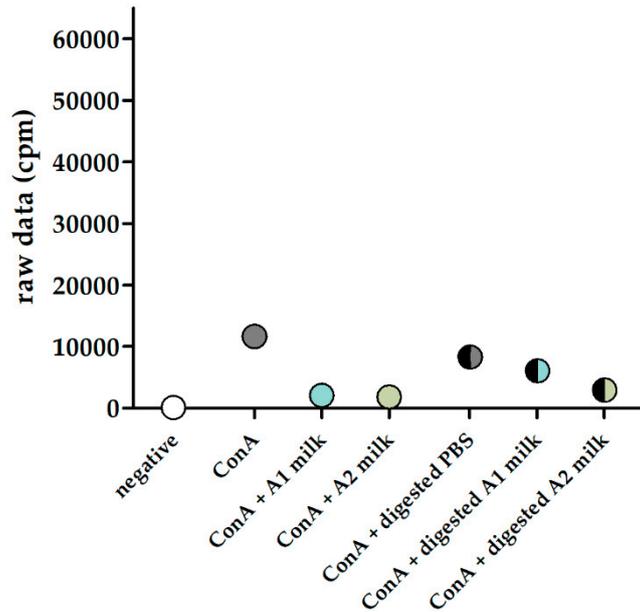
Supplementary Figure S1: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 1. Scatter plots represent raw count per minute (cpm)-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

Milk and Digested Milk Donor 2



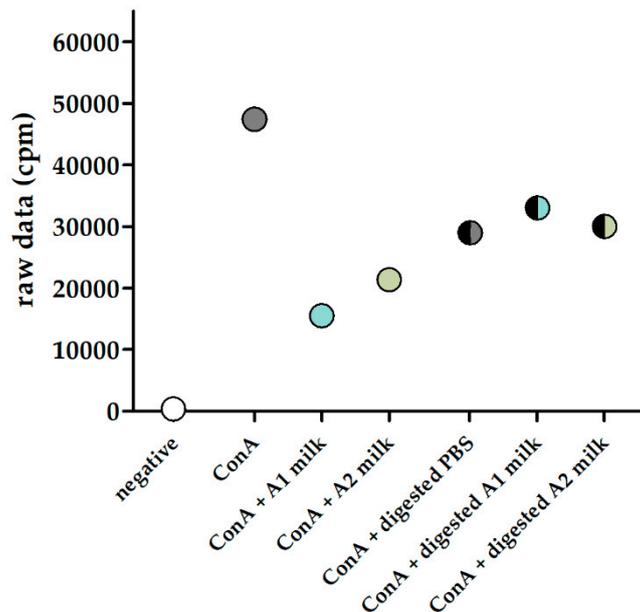
Supplementary Figure S2: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 2. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

Milk and Digested Milk Donor 3



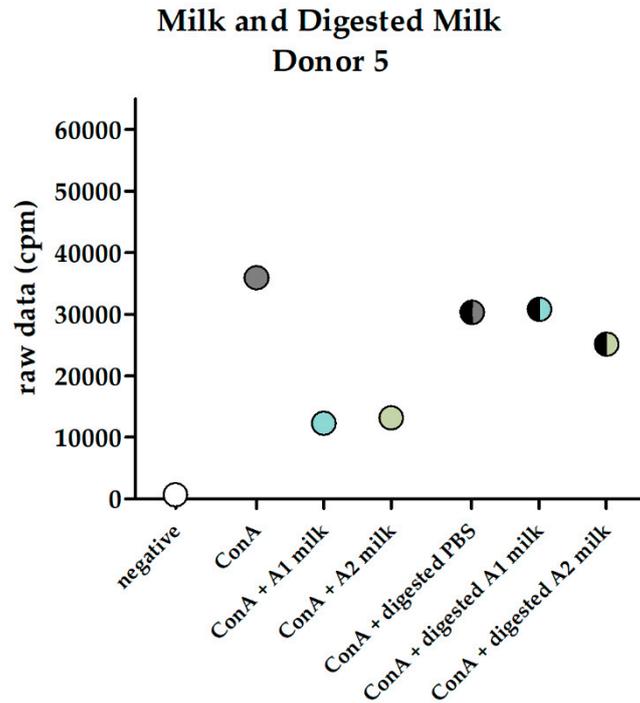
Supplementary Figure S3: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 3. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

Milk and Digested Milk Donor 4

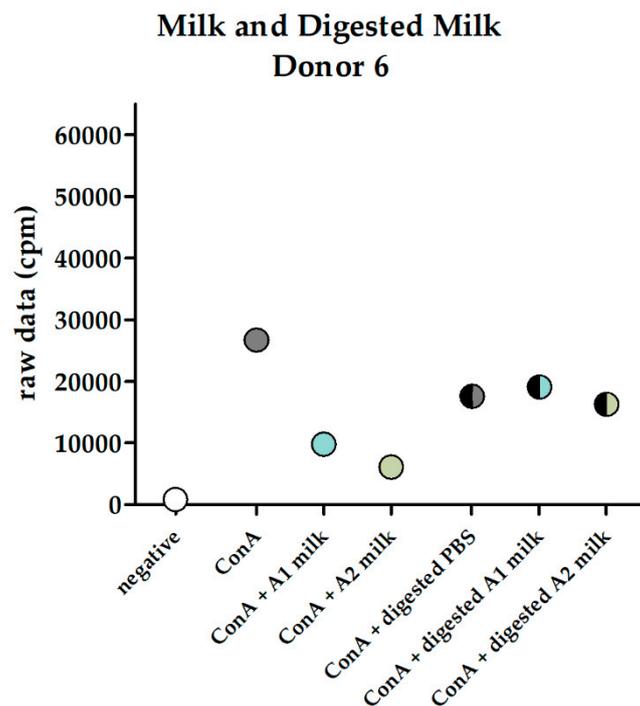


Supplementary Figure S4: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 4. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped

grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

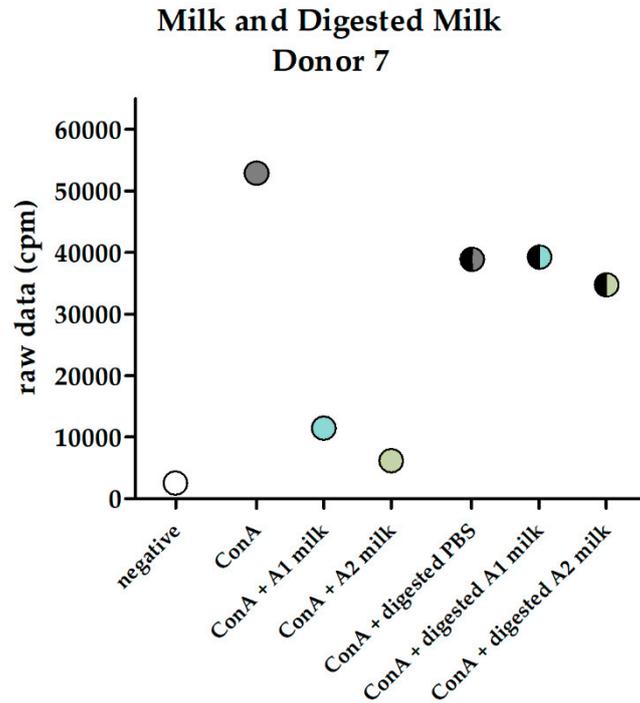


Supplementary Figure S5: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 5. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

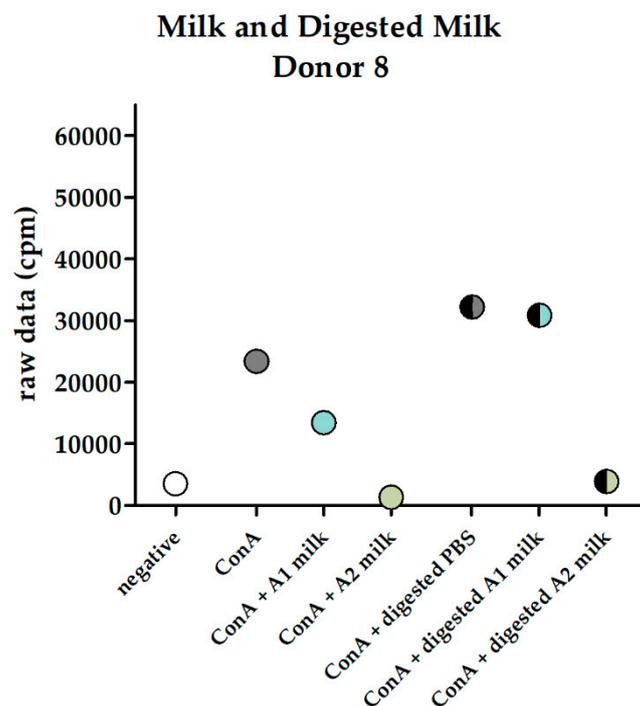


Supplementary Figure S6: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 6. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk

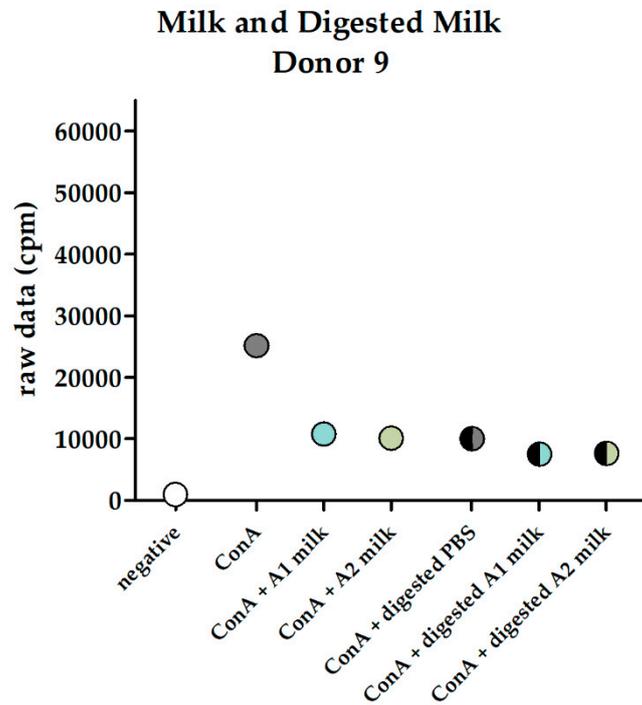
(striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).



Supplementary Figure S7: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 7. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

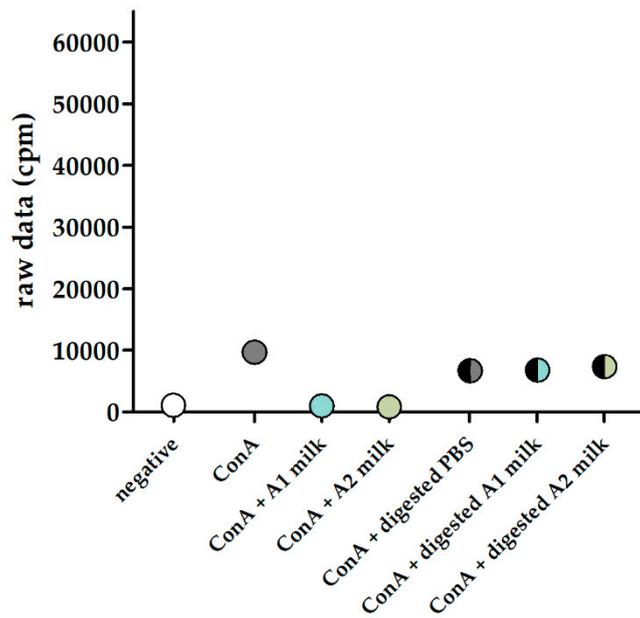


Supplementary Figure S8: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 8. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).



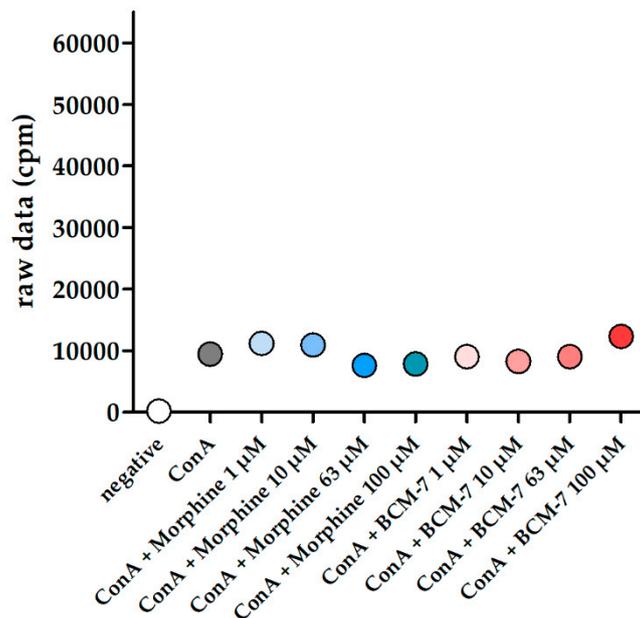
Supplementary Figure S9: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 9. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

Milk and Digested Milk Donor 10



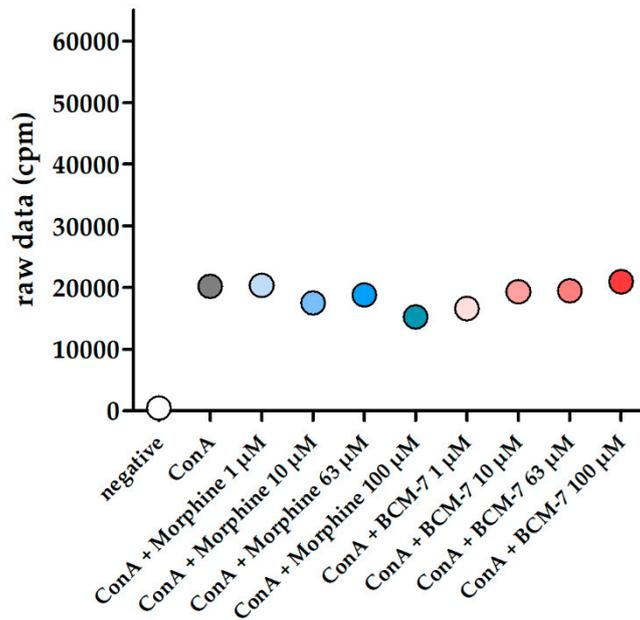
Supplementary Figure S10: Effects of A1 and A2 milk and digested A1 and A2 milk on ConA-stimulated human PBMC of donor 10. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in 1% A1 milk (light blue), 1% A2 milk (light green), 1% digested A1 milk (striped light blue) and 1% digested A2 milk (striped light green). ConA-stimulated PBMC served as a control for ConA + 1% milk stimulation (grey). ConA-stimulated PBMC incubated in 1% digested PBS served as control for ConA + 1% digested milk stimulation (striped grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (negative, white).

Morphine-sulfate and BCM-7 Donor 1



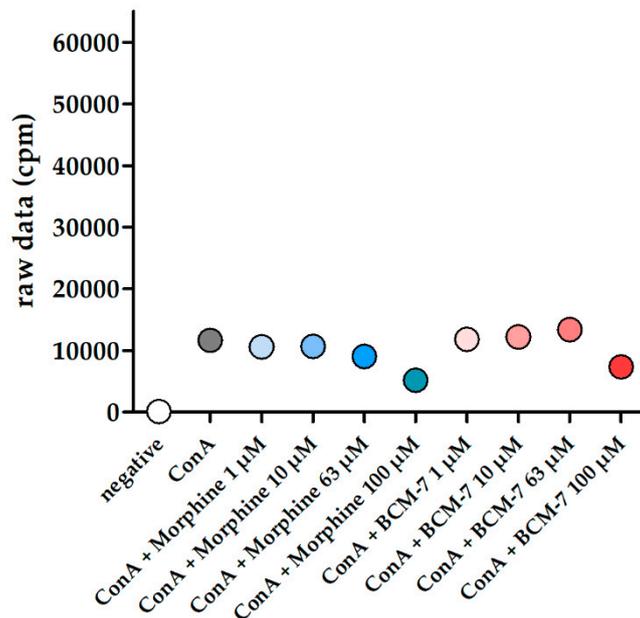
Supplementary Figure S11: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 1. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 2



Supplementary Figure S12: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 2. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

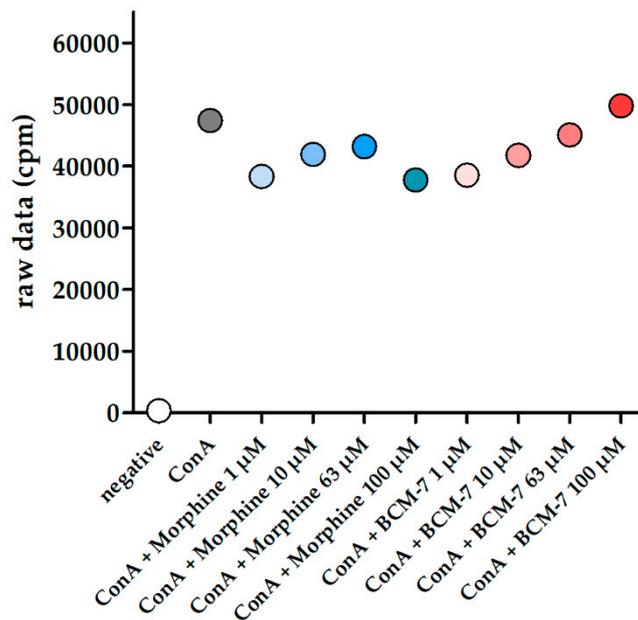
Morphine-sulfate and BCM-7 Donor 3



Supplementary Figure S13: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 3. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7

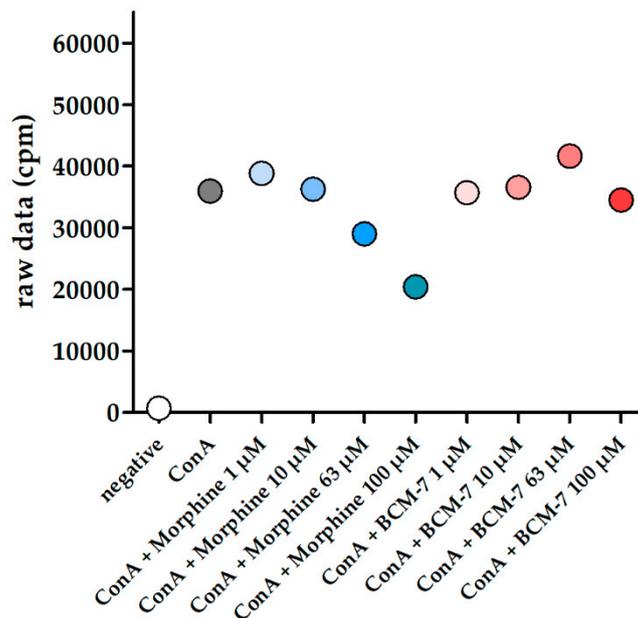
Donor 4



Supplementary Figure S14: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 4. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7

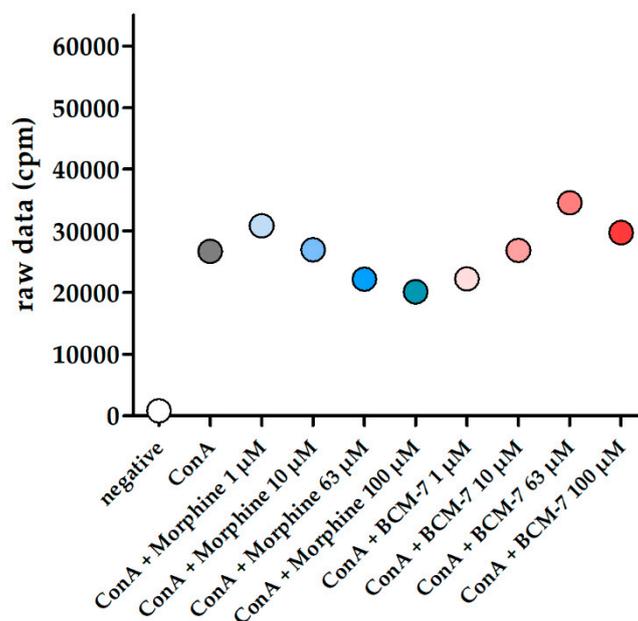
Donor 5



Supplementary Figure S15: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 5. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7

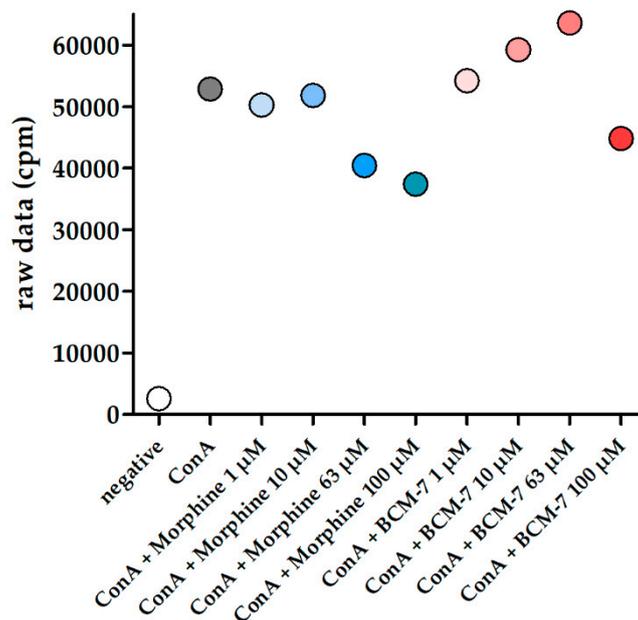
Donor 6



Supplementary Figure S16: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 6. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

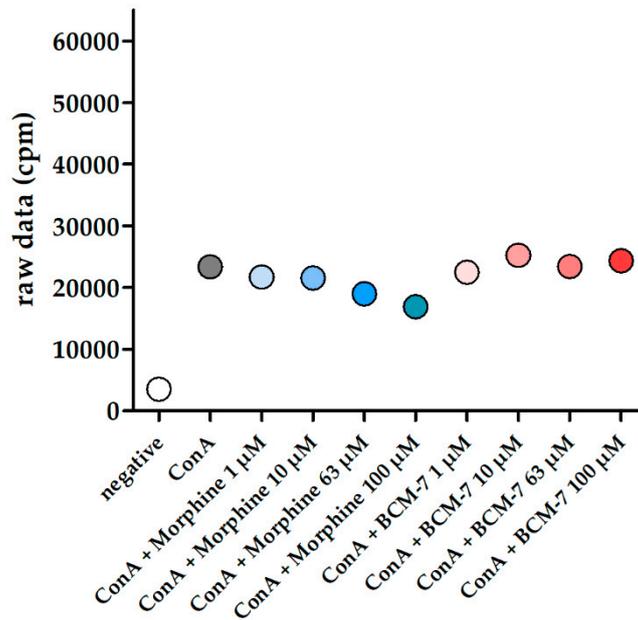
Morphine-sulfate and BCM-7

Donor 7



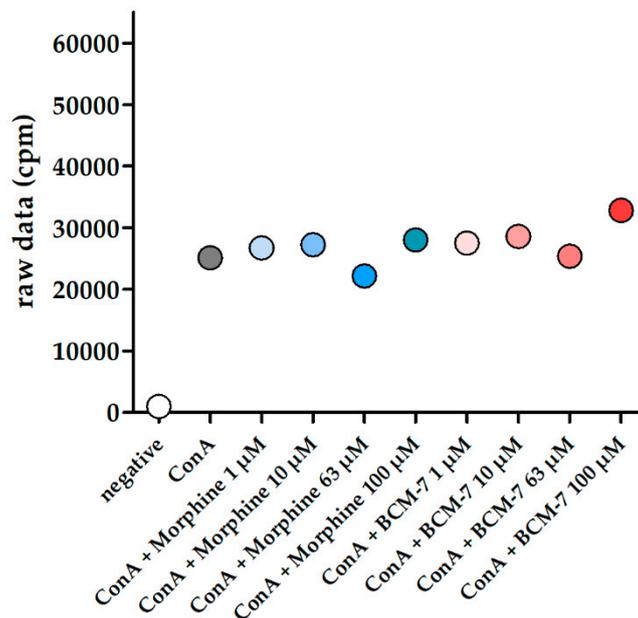
Supplementary Figure S17: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 7. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 8



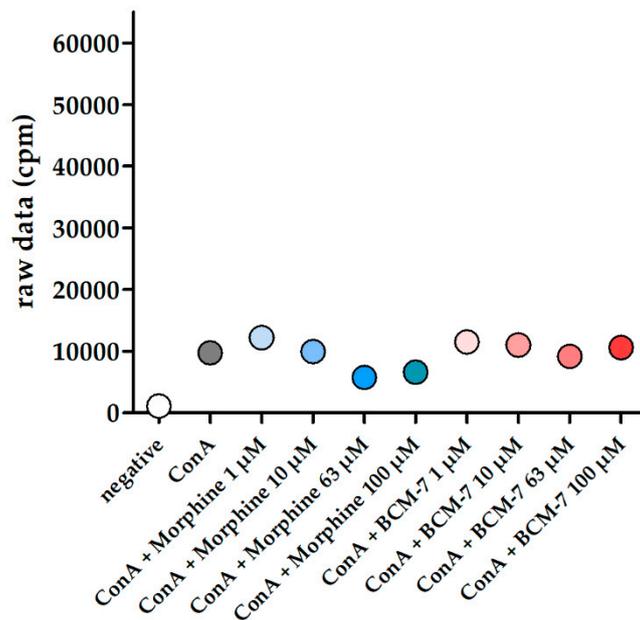
Supplementary Figure S18: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 8. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 9



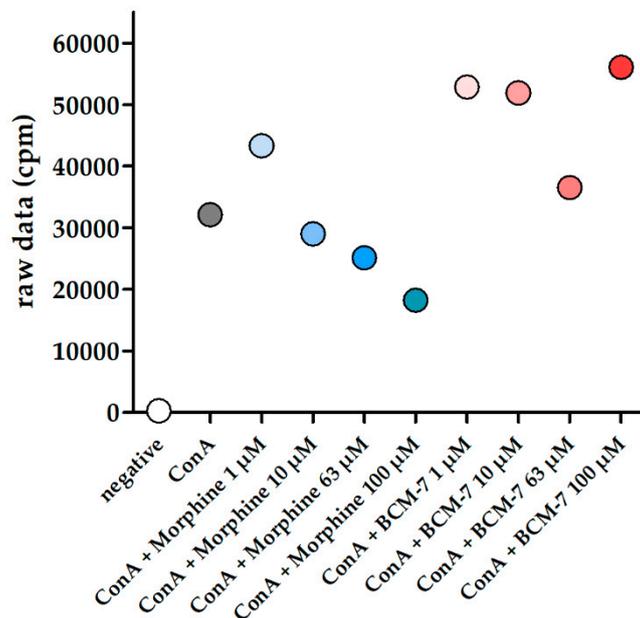
Supplementary Figure S19: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 9. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 10



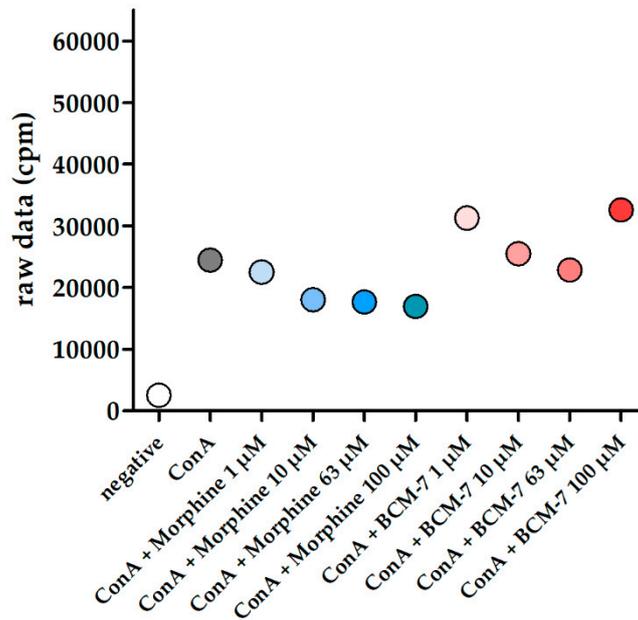
Supplementary Figure S20: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 10. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 11



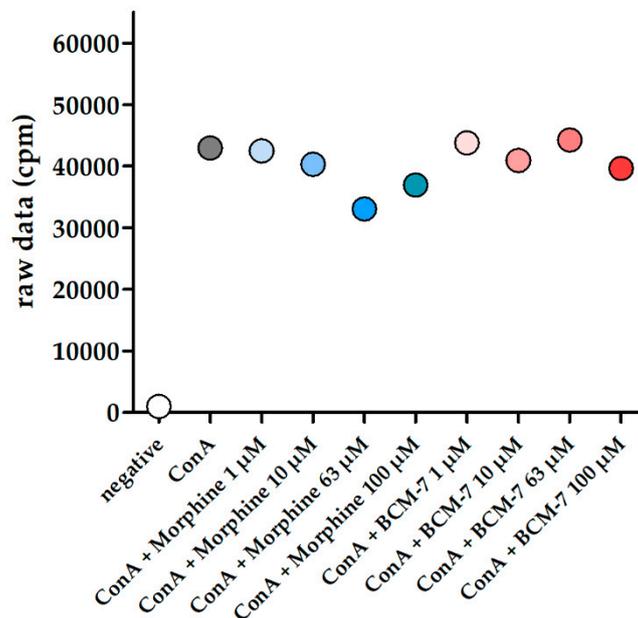
Supplementary Figure S21: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 11. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 12



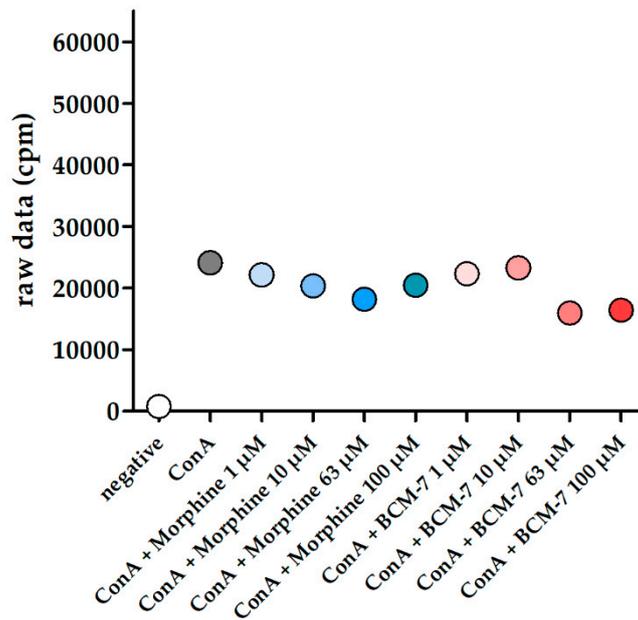
Supplementary Figure S22: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 12. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 13



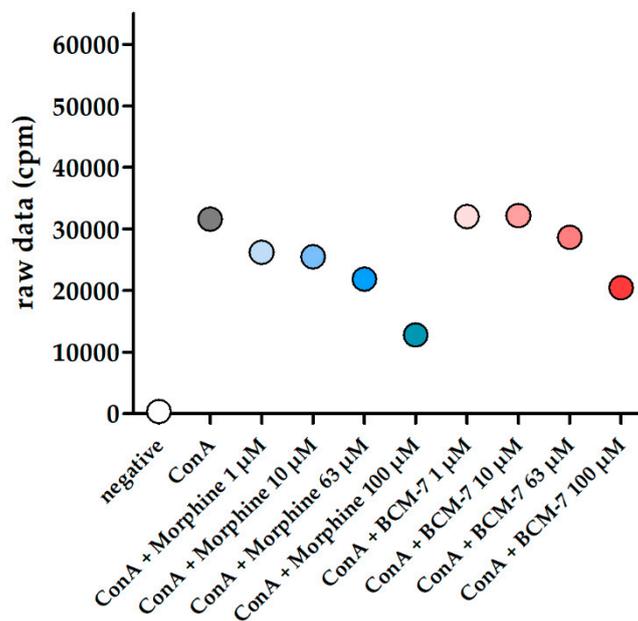
Supplementary Figure S23: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 13. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 14



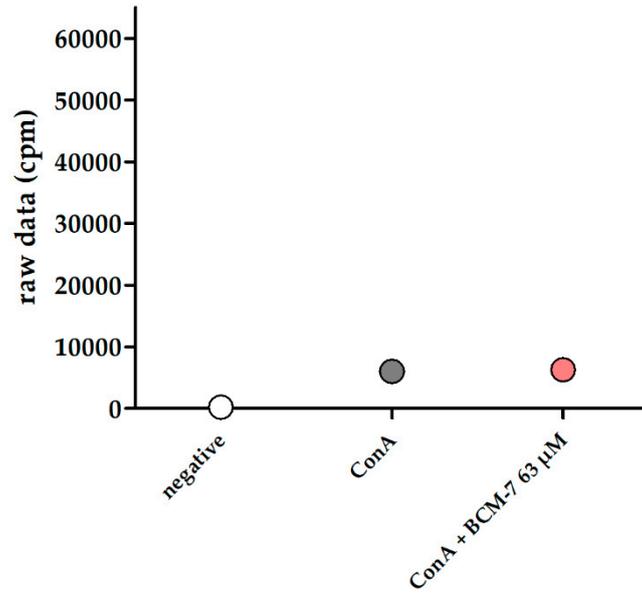
Supplementary Figure S24: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 14. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

Morphine-sulfate and BCM-7 Donor 15



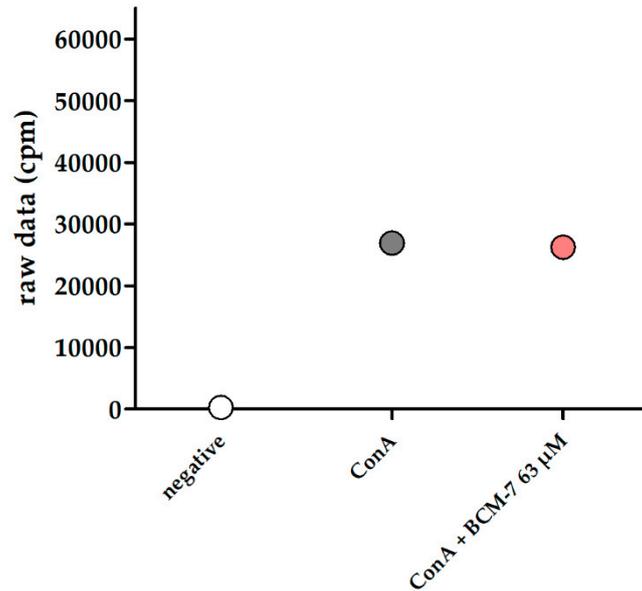
Supplementary Figure S25: Effects of morphine-sulfate and BCM-7 on ConA-stimulated human PBMC of donor 15. Scatter plots represent raw cpm-values of ConA-stimulated PBMC following incubation in morphine-sulfate (from light to dark blue) and BCM-7 (from light to dark red) in various concentrations. ConA-stimulated PBMC served as control (grey). PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white).

CD4⁺ T cells Donor 1



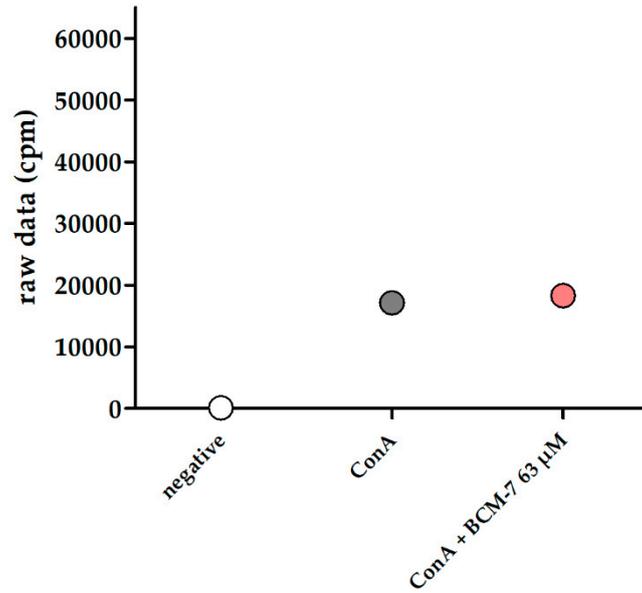
Supplementary Figure S26: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 1. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

CD4⁺ T cells Donor 2



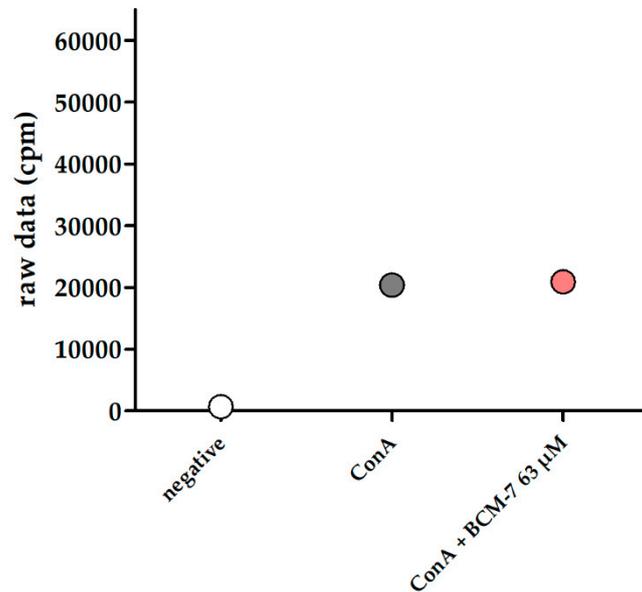
Supplementary Figure S27: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 2. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

CD4⁺ T cells Donor 3

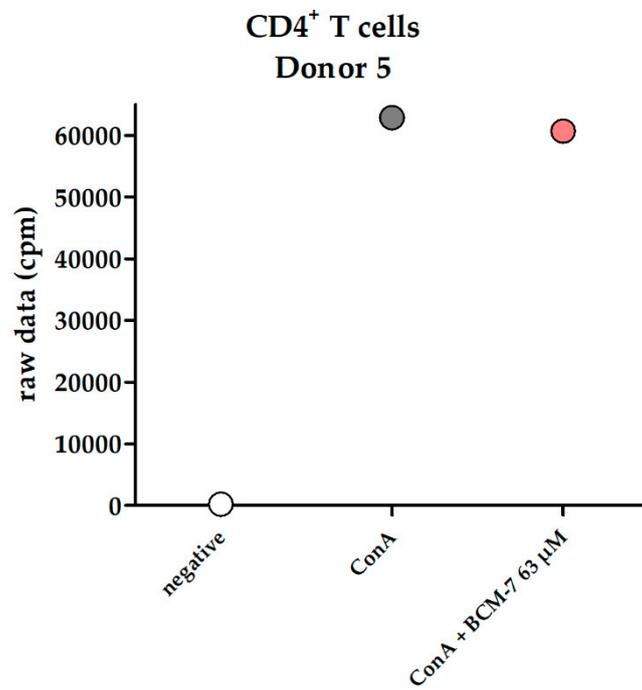


Supplementary Figure S28: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 3. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

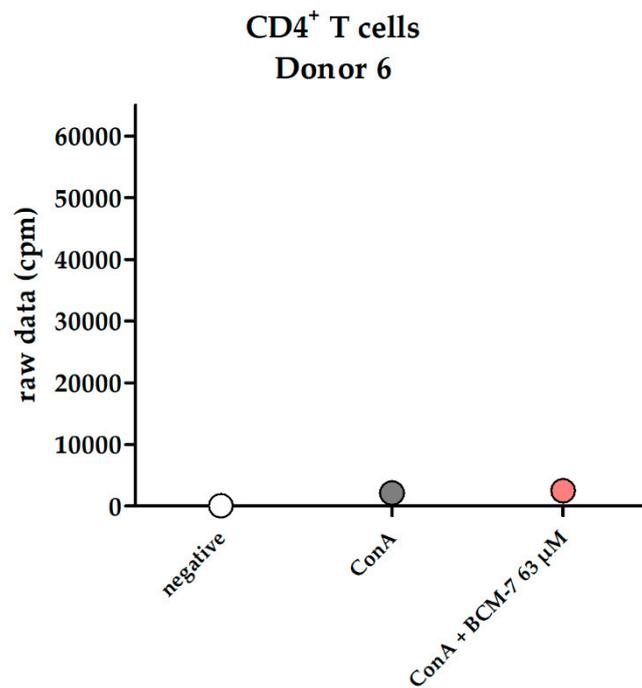
CD4⁺ T cells Donor 4



Supplementary Figure S29: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 4. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

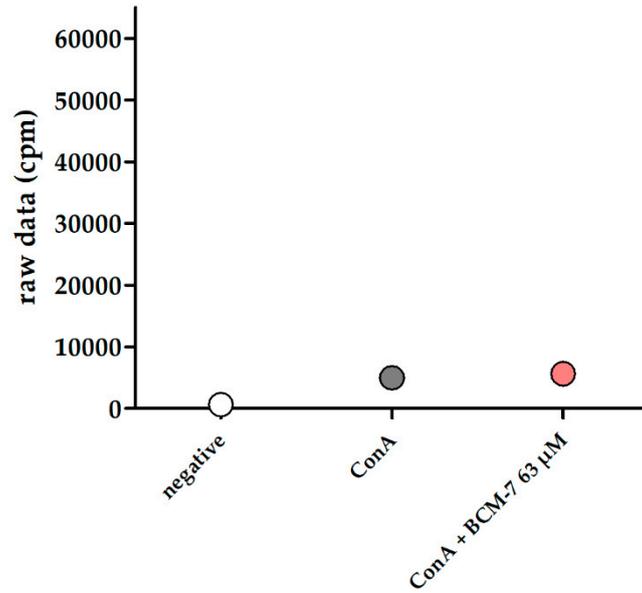


Supplementary Figure S30: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 5. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).



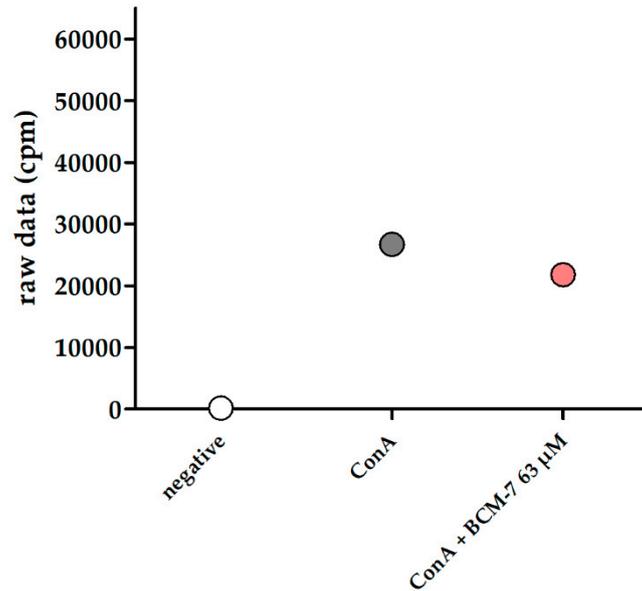
Supplementary Figure S31: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 6. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

**CD4⁺ T cells
Donor 7**



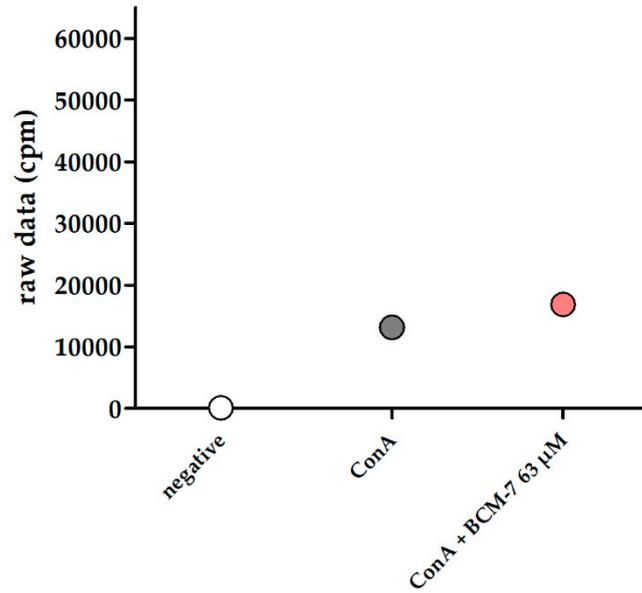
Supplementary Figure S32: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 7. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

**CD4⁺ T cells
Donor 8**



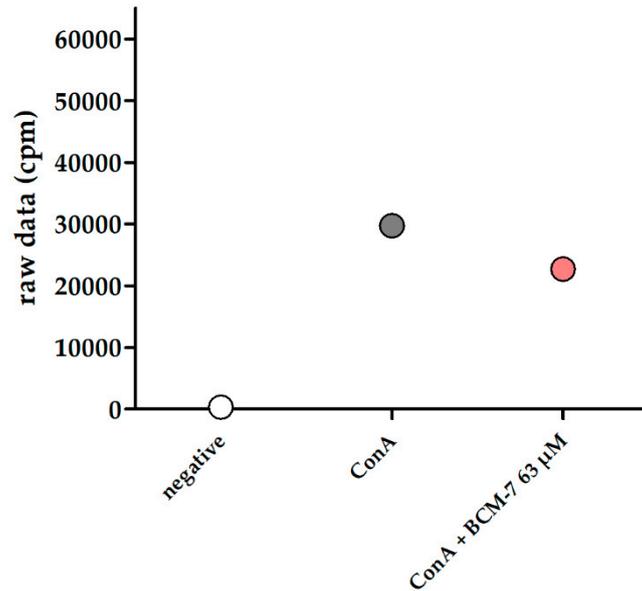
Supplementary Figure S33: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 8. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

CD4⁺ T cells Donor 9



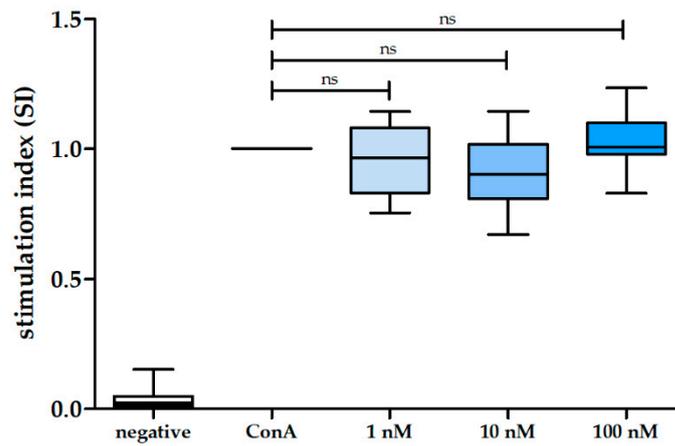
Supplementary Figure S34: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 9. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

CD4⁺ T cells Donor 10



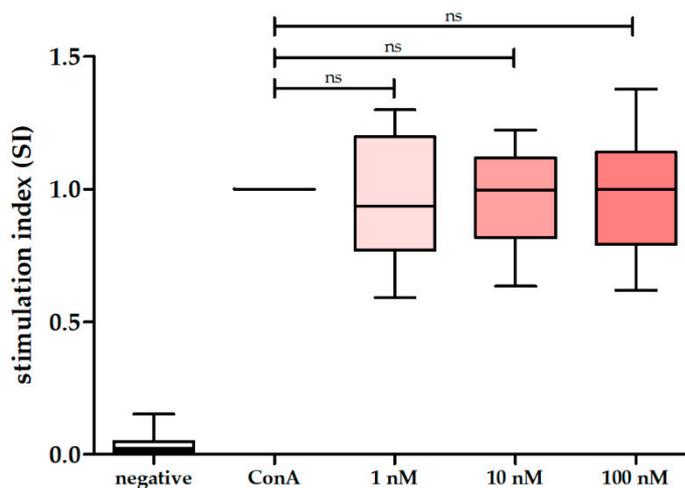
Supplementary Figure S35: Effect of BCM-7 on ConA-stimulated CD4⁺ T cells of donor 10. Scatter plot represents raw cpm-values of ConA-stimulated CD4⁺ T cells following incubation in BCM-7 (light red). ConA-stimulated CD4⁺ T cells served as control (grey). CD4⁺ T cells incubated only in medium (negative control for CD4⁺ T cells) served as the control for ConA-induced proliferation (white).

Morphine-sulfate



Supplementary Figure S36. Effect of morphine-sulfate on ConA-stimulated PBMC. Box and whiskers plots represent mean stimulation indices of ConA-stimulated PBMC following incubation in morphine-sulfate in various concentrations (from light to medium blue), $n = 15$. ConA-stimulated PBMC served as control and were set to 1 (black), $n = 15$. PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white), $n = 15$. Non-parametric Kruskal-Wallis test followed by Dunn's post hoc test was performed to test for statistical significance; ns, $p \geq 0.05$.

BCM-7



Supplementary Figure S37. Effect of BCM-7 on ConA-stimulated PBMC. Box and whiskers plots represent mean stimulation indices of ConA-stimulated PBMC following incubation in BCM-7 in various concentrations (from light to medium red), $n = 15$. ConA-stimulated PBMC served as control and were set to 1 (black), $n = 15$. PBMC incubated only in medium (negative control) served as the control for ConA-induced proliferation (white), $n = 15$. Non-parametric Kruskal-Wallis test followed by Dunn's post hoc test was performed to test for statistical significance; ns, $p \geq 0.05$.