

**Table S1.** Sequences producing significant alignments for SL42 isolate compared to other species in NCBI GenBank.

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. Ident	Acc. Len	Accession
Lacticaseibacillus rhamnosus strain SL42 16S ribosomal RNA gene, partial sequence	Lacticaseibacillus rhamnosus	798	798	100%	0.0	100.00%	432	OQ300076.1
Lacticaseibacillus rhamnosus strain 3030 16S ribosomal RNA gene, partial sequence	Lacticaseibacillus rhamnosus	782	782	99%	0.0	99.53%	1472	MT613447.1
Uncultured Lactobacillus sp. clone s5 16S ribosomal RNA gene, partial sequence	uncultured Lactobacillus sp.	780	780	99%	0.0	99.31%	1481	HM151341.1
Lactobacillus paracasei strain 3099 16S ribosomal RNA gene, partial sequence	Lacticaseibacillus paracasei	778	778	98%	0.0	99.76%	1464	MT613487.1
Lacticaseibacillus rhamnosus strain 3034 16S ribosomal RNA gene, partial sequence	Lacticaseibacillus rhamnosus	778	778	98%	0.0	99.76%	1479	MT613451.1
Lacticaseibacillus rhamnosus strain 2418 16S ribosomal RNA gene, partial sequence	Lacticaseibacillus rhamnosus	778	778	98%	0.0	99.76%	1471	MT604852.1

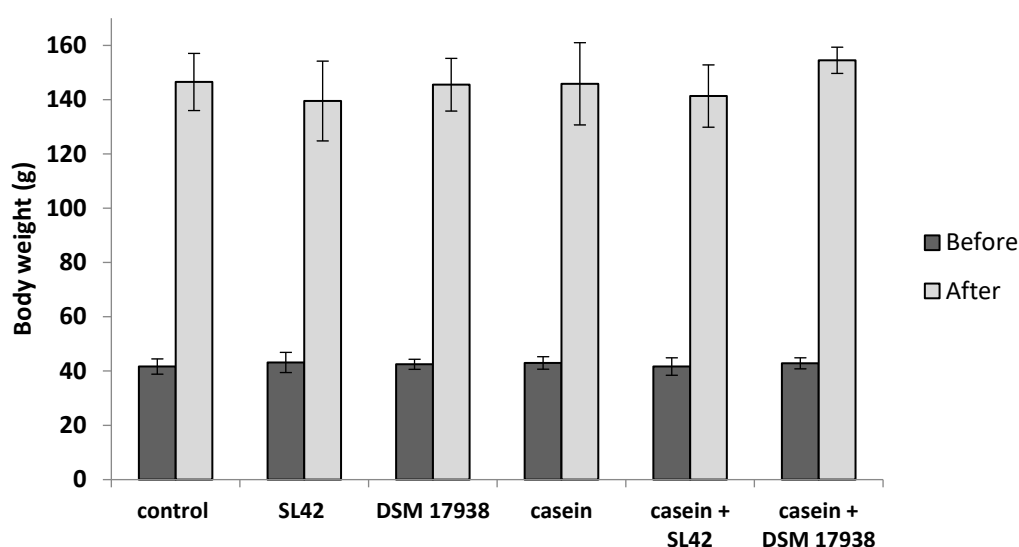
**Figure S1.** Body weight variation (g) before (day 1st), and after (day 58th) CAS-challenge. The values are shown as the means \pm SD (n = 8 rats/group). No significant differences were observed at $P > 0.05$.

Table S2. Body temperature ($^{\circ}\text{C}$) variation during CAS-challenge. The values are shown as the means \pm SD ($n = 8$ rats/group). No significant differences were observed at $P > 0.05$.

	Control	SL42	DSM 17938	Casein	Casein + SL42	Casein + DSM17938
30 min	37 \pm 0.21	36 \pm 0.43	37 \pm 0.1	36.5 \pm 0.43	36 \pm 0.43	36 \pm 0.21
60 min	37 \pm 0.3	37 \pm 0.21	37 \pm 0.2	36 \pm 0.21	36 \pm 0.43	36 \pm 0.21
120 min	37 \pm 0.2	36.5 \pm 0.21	37 \pm 0.23	37 \pm 0.43	37 \pm 0.5	37 \pm 0.43

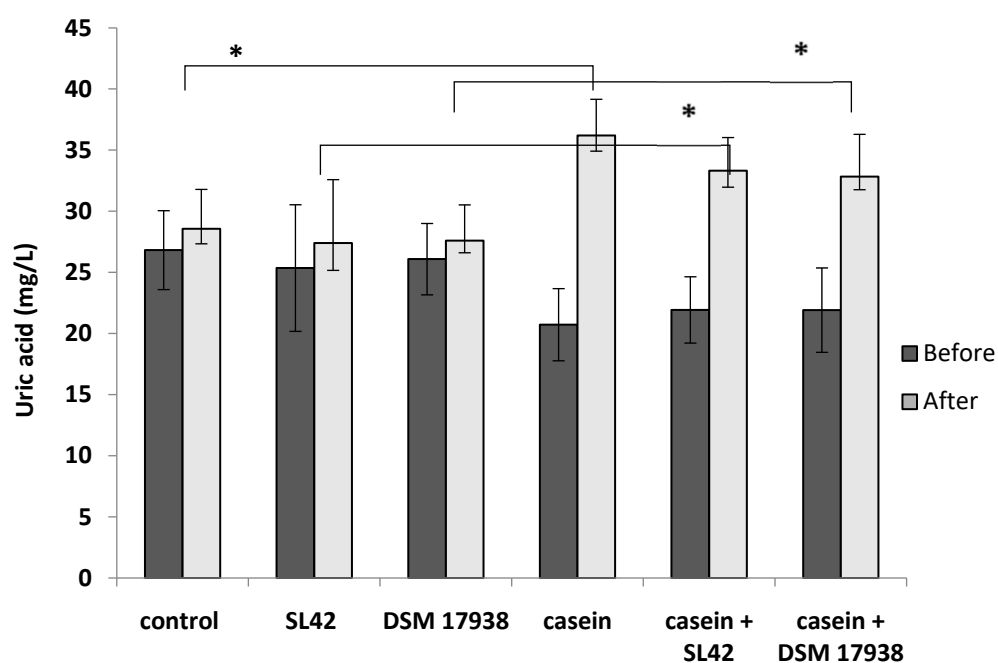


Figure S2. Uric acid levels in sera of rats before (day 1st), and after (day 58th) CAS-challenge. The values are shown as the means \pm SD ($n = 8$ rats/group). * Significant differences were observed at $P < 0.05$.