Supplementary Information

**Figure S1.** Dose response of *Lithothamnion muelleri* extract (LM) in mice subjected to GVHD. GVHD was induced by the transfer of splenocytes from C57BL/6J donors to B6D2F1 mice. Mice that received syngeneic splenocytes did not develop disease and were considered the Control group. LM (in the diet, w/w) was offered at concentrations of 0.1%, 0.3% and 1% in the diets of recipient mice from 1 day before transplantation until the experimental endpoint. After the induction of GVHD, the mice were evaluated every 2 day for survival (A) and GVHD clinical scores (B). The remaining mice were sacrificed on day 40, which was the last day of observation. The results are shown as the mean ± SEM. Control group (♦), n = 6; GVHD group (■), n = 7, LM 0.1% group (×), n = 7, LM 0.3% group (●), n = 7, LM 1% group (▼), n = 7. *, #, and †, p < 0.05 when compared with the Control and GVHD groups, respectively.

**Figure S2.** *Lithothamnion muelleri* extract (LM) treatment did not reduce the concentrations of IFN-γ and CCL2 in the liver of mice subjected to GVHD. GVHD was induced by the transfer of splenocytes from C57BL/6J donors to B6D2F1 mice. Mice that received syngeneic (B6D2F1) splenocytes did not develop disease and were considered the Control group. LM (1% in the diet, w/w) was offered in the diets of recipient mice from 1 day before transplantation until the experimental endpoint. At 20 days after transplantation, the mice were sacrificed and the concentrations of IFN-γ (A) and CCL2 (B) in the liver homogenates were evaluated by ELISA. The results are shown as the mean ± SEM (n = 5); *, † p < 0.05 when compared with the Control group.
Figure S3. Calcium carbonate (CaCO$_3$) is not involved in the *Lithothamnion muelleri* extract-mediated protection of mice subjected to GVHD. GVHD was induced by the transfer of splenocytes from C57BL/6J donors to B6D2F1 mice. Mice that received syngeneic (B6D2F1) splenocytes did not develop disease and were considered the Control group. LM (1% in the diet, w/w; LM group) or CaCO$_3$ (0.9% in the diet, w/w; CaCO$_3$ group) was offered in the diets of recipient mice from 1 day before transplantation until the experimental endpoint. After the induction of GVHD, the mice were evaluated every 2 day for body weight (A) and GVHD clinical scores (B). The results are shown as the mean ± SEM. Control group (♦), n = 6; GVHD group (■), n = 7; LM group (▼), n = 7 and CaCO$_3$ group (○), n = 7. * and #, p < 0.05 when compared with the Control and GVHD groups, respectively.

Figure S4. *Lithothamnion muelleri* extract (LM) treatment protects mice in a model of severe GVHD. GVHD was induced by the transfer of $3 \times 10^7$ splenocytes and $1 \times 10^7$ bone marrow cells from C57BL/6J donors into B6D2F1 mice that had been irradiated with a lethal dose for bone marrow depletion. Mice that received syngeneic (B6D2F1) splenocytes did not develop disease and were considered the Control group. LM (1% in the diet, w/w) was offered in the diets of recipient mice from 1 day before transplantation until the experimental endpoint. After the induction of GVHD, the mice were evaluated every 2 day for survival (A), clinical scoring (B) and body weight (C). The results are shown as the mean ± SEM. Control group (♦), n = 6; GVHD group (■), n = 7 and LM group (▼), n = 7. * and #, p < 0.05 when compared with the Control and GVHD groups, respectively.