

**Fig. S1. Study plan of overall experimental design.** (A) Pretreatment irradiation regime for 8-methoxypsoralen plus ultraviolet A (PUVA) and ultraviolet B (UVB), given at sub-phototoxic dose levels of 0.25 and  $0.2 \, \mathrm{J/cm^2}$ , respectively. Imiquimod (IMQ) was applied topically with a gap of 3 or 7 days, at  $62.5 \, \mathrm{mg/day}$  per mouse at the indicated time-points. (B) Treatment regime of PUVA ( $0.25 \, \mathrm{and} \, 0.5 \, \mathrm{J/cm^2}$ ) and UVB ( $0.2 \, \mathrm{J/cm^2}$ ) during the active disease induced by IMQ. The execution (E) and tissue collection for each group is indicated with arrows at the respective time-point. Each study group consisted of 5 mice.