Training the immune system to prevent cancer—researchers discover paradigm-shifting approach

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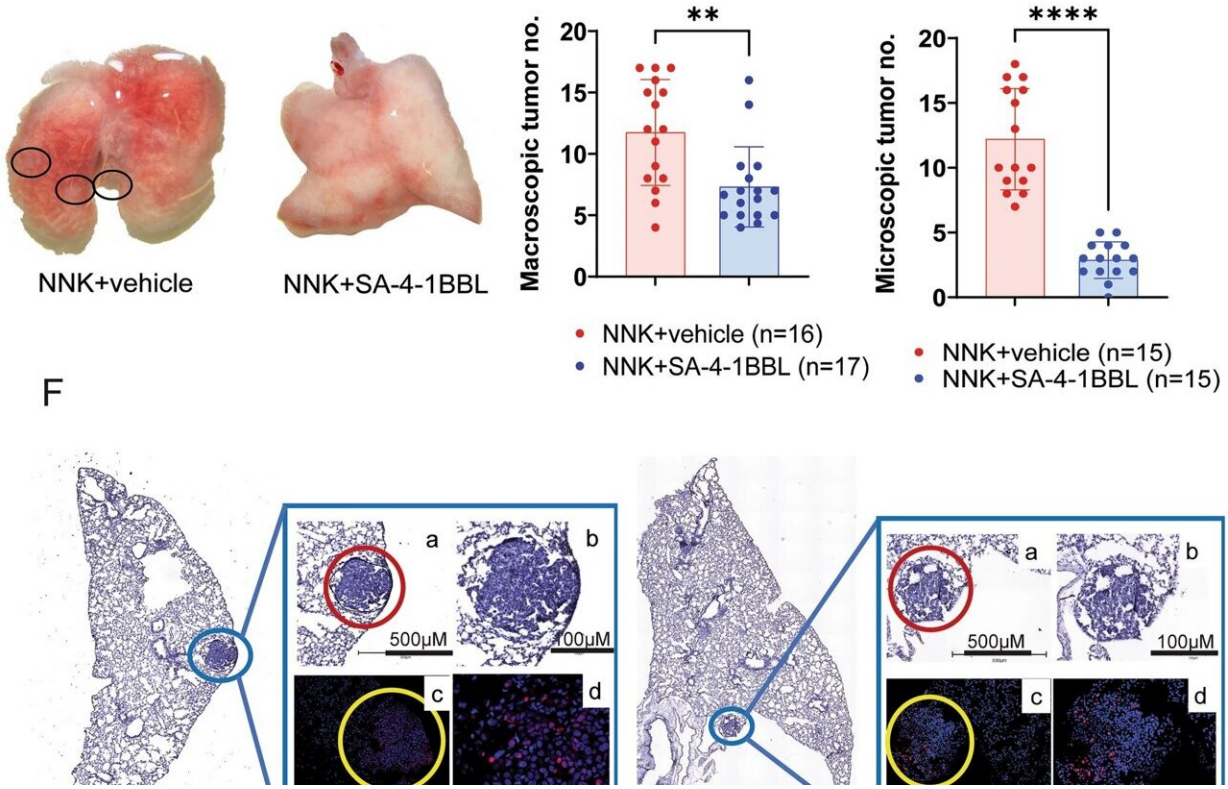

SA-4-1BBL treatment protected mice from developing lung tumors induced by NNK. **A** Experimental design, and treatment timeline**.** Female A/J mice were randomly divided into three groups: naïve (untreated), NNK control, and NNK + SA-4-1BBL-treated group. NNK control (NNK + vehicle) and NNK + SA-4-1BBL groups received 25 mg/kg of NNK (4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone) via i.p. injection weekly for

the first eight weeks of the experiment. SA-4-1BBL treatment group (n = 17) also received 100-µg SA-4-1BBL s.c. at weeks 6 and 8, two days post-NNK administration. **B** The animals body weight changes were assessed during weekly follow-up. Body weight changes were not significantly different across the groups compared to untreated age-matched A/J mice. **C.** Representative images of macroscopic tumor nodules in the lungs. In the 18th week, mice were euthanized, and lungs were perfused to evaluate macroscopic tumor nodules. Black dashed circles show macroscopic tumor nodules on the lungs. **D.** Macroscopic tumor numbers in NNK control and NNK + SA-4-1BBL treatment groups. Lungs were evaluated under the dissecting microscope, and macroscopic tumor nodules were counted and compared between the NNK control group and NNK + SA-4-1BBL treatment group. SA-4-1BBL-treated group showed significantly fewer macroscopic tumor nodules than the control group (p