**Supp. Fig. 1 ILC1 are enriched in tumor and lymph nodes of B16-F10-melanoma-bearing mice.** A) Representative examples of flow cytometry analysis of ILCs in littermate control (CTR) and melanoma-bearing mice (B16) lymph nodes (LN). B) Frequencies of total ILCs identified as Lin−CD90.2+ cells in lymphocytes (n=6). C) Representative examples of flow cytometry analysis of ILC subsets in CTR and B16 LN. D,E) Absolute count measurements of ILCs in lymph nodes and dissociated tumor of melanoma bearing mice.

**Supp. Fig. 2** **IDO and Adenosine-producing enzymes expression in human ILCs.** A)Representative examples of flow cytometry analysis of the expression of IDO in ILC subsets. B) Frequency of IDO-positive cells in ILCs subsets (n=3). C) Representative examples of flow cytometry analysis of the expression of CD39 and CD73 adenosine-producing enzymes in ILC subsets. D) Frequency of CD39 and CD73-positive cells in ILC subsets (n=5).

**Supp. Fig. 3** **IDO expression in human melanoma cells and its effect on ILCs.** A)Quantification of IDO by flow cytometry in untransduced and transduced Me275 melanoma cells. Similar results were obtained after treatment by IFN-. B) Quantification of kynurenines in the supernatant of untransduced and IDO-transduced Me275 melanoma cells. C) Frequencies of total ILCs and D) ILC subsets after culture of PBMCs in medium only, or after co-culture with untransduced (+Me275) or IDO-transduced Me275 melanoma cells (+Me275 IDO) for 48h (n=4). E) Frequencies of IFN-γ+ and TNF-α+ in total ILCs after culture of PBMCs in medium only, or after co-culture with untransduced (+Me275) or IDO-transduced Me275 melanoma cells (+Me275 IDO) for 48h (n=2).