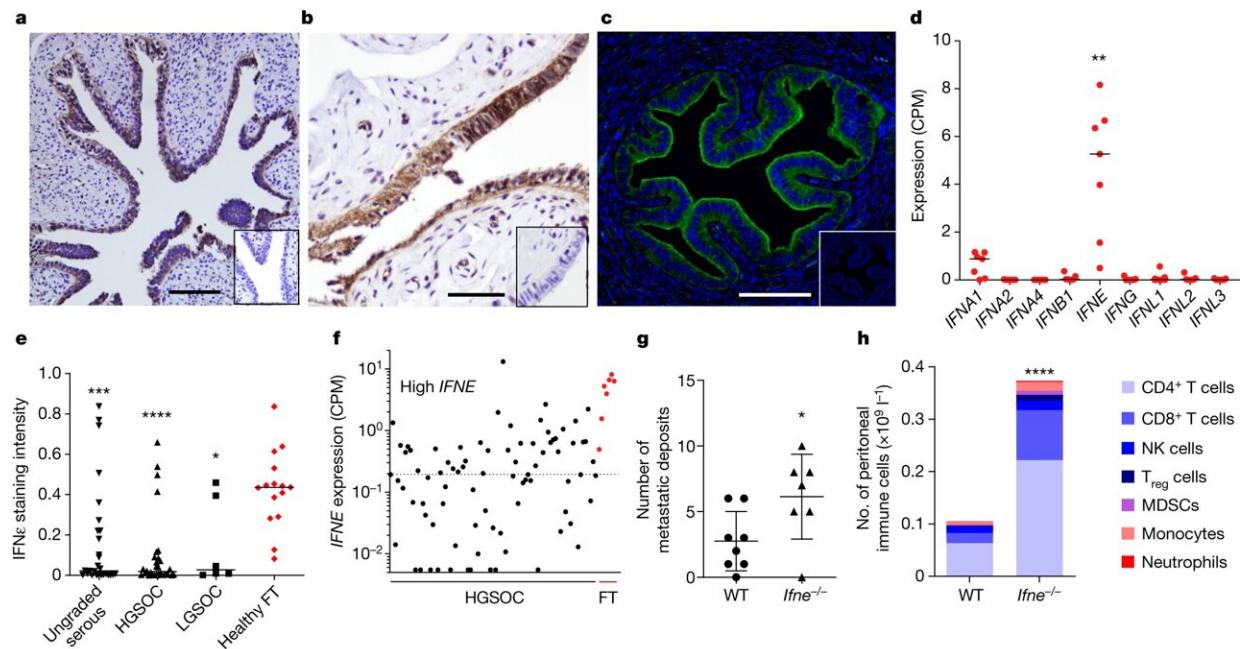


Using the immune system to stop ovarian cancer

August 16 2023



Suppression of epithelial IFN ϵ in HGSOC and anti-tumor properties. **a,b**, IHC staining of human FT from two healthy women using rabbit anti-human IFN ϵ (main image) or IgG control (inset), with haematoxylin counterstain (scale bars: 100 μ m (a), 10 μ m (b)). Images are representative of $n = 20$ individuals. **c**, Immunofluorescence staining of C57BL/6J mouse FT using anti-mouse IFN ϵ (main image) or IgG control (inset), with DAPI counterstain. Image representative of $n = 3$ mice. Scale bar, 100 μ m. **d**, mRNA expression of IFN genes in human FT epithelium (RNA-seq data derived from Australian Ovarian Cancer Study control samples¹). CPM, counts per million. **e**, Quantification of IHC staining for IFN ϵ in control human FT epithelium ($n = 20$), LGSOC ($n = 6$), HGSOC ($n = 30$) and ungraded serous samples ($n = 28$). Data are mean intensity scores for each sample stained in technical duplicates on tissue microarrays. **f**, IFN ϵ expression (CPM) in HGSOC and FT. High IFN ϵ expression is indicated. **g**, Number of metastatic deposits in WT and *Ifne*^{-/-} mice. **h**, No. of peritoneal immune cells ($\times 10^6$ l⁻¹) in WT and *Ifne*^{-/-} mice. Legend: CD4⁺ T cells, CD8⁺ T cells, NK cells, T_{reg} cells, MDSCs, Monocytes, Neutrophils.

Individual Mann–Whitney U tests compared to healthy FT control tissue. **f**, IFN ϵ transcript expression plotted as normalized expression (from RNA-seq analysis) of IFN ϵ in Australian Ovarian Cancer Study samples ($n = 83$ HGSOc samples, $n = 7$ FT epithelium). Median expression in tumor samples is indicated by the dotted line. **g,h**, A syngeneic orthotopic model of ovarian cancer in wild-type (WT) and $Ifne^{-/-}$ mice (Methods). **g**, The total number of metastatic deposits in the peritoneal cavity at endpoint. Data are mean \pm s.d. of individual data points, $n = 8$ wild-type and $n = 7$ $Ifne^{-/-}$ mice. Unpaired two-tailed t -test. **h**, Total numbers of specific immune cell populations detected in peritoneal lavage fluid. Data are mean of cell counts measured for each genotype in a stacked bar graph. NK, natural killer. Two-way ANOVA. **** P

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