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Technical Data Sheet: HCC827-GAS-Luc2

ATCC® Number	CRL-2868-GAS-LUC2™
Organism	*Homo sapiens*
Tissue/Disease Source	Lung Adenocarcinoma
Product Description	HCC827 cell line (ATCC CRL-2868™) is commonly used in immuno-oncology research and endogenously expresses a high level of programmed death-ligand 1 (PD-L1), also known as cluster of differentiation 274 (CD274) or B7 homolog 1 (B7-H1). This luciferase reporter cell line was derived from the parental line CRL-2868 by stably expressing the firefly luciferase gene (luc2) under the control of a gamma-activated site (GAS) promoter through lentiviral transduction and single cell cloning. The cells, upon stimulation with interferon gamma (IFN-γ), express high levels of enzymatically active luciferase protein, which can be detected via in vitro bioluminescence assays. This reporter cell line is useful for monitoring the activity of IFNγ-induced GAS signal transduction pathways. Luciferase activation can be induced by recombinant IFNγ protein, conditioned media from activated primary CD8+ T cells, or co-culture with primary CD8+ T cells (tested at ATCC).
Application	Enabling sensitive and quantitative assessment of signal transduction makes this reporter cell line ideal for in vitro bioluminescence assays to study immune response in cell lines overexpressing PD-L1, development of new drugs, and safety evaluation of new chemicals and drugs.

In vitro activation of luciferase expression by IFNγ and T cell-conditioned media

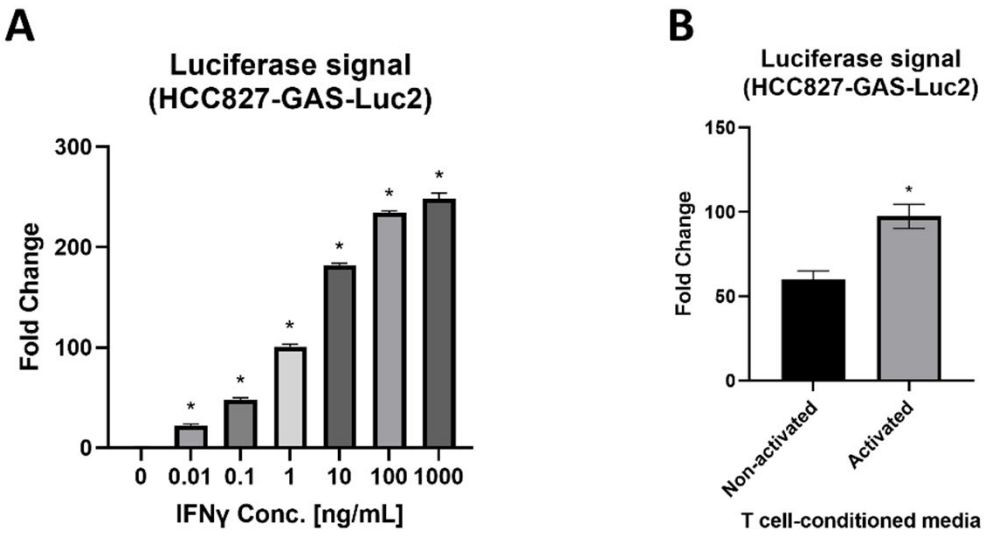


Figure 2. In vitro activation of luciferase expression by IFNγ and T Cell-conditioned media. Luciferase expression from HCC827-GAS-Luc2 cells upon signaling activation by (A) IFN-γ stimulation (0.01 – 1,000 ng/ mL), (B) conditioned-media stimulation from checkpoint matched non-activated and activated primary CD8+ T cells. N=3 in all experiments. *, $P < 0.05$.

In vitro activation of bioluminescence in co-culture assay

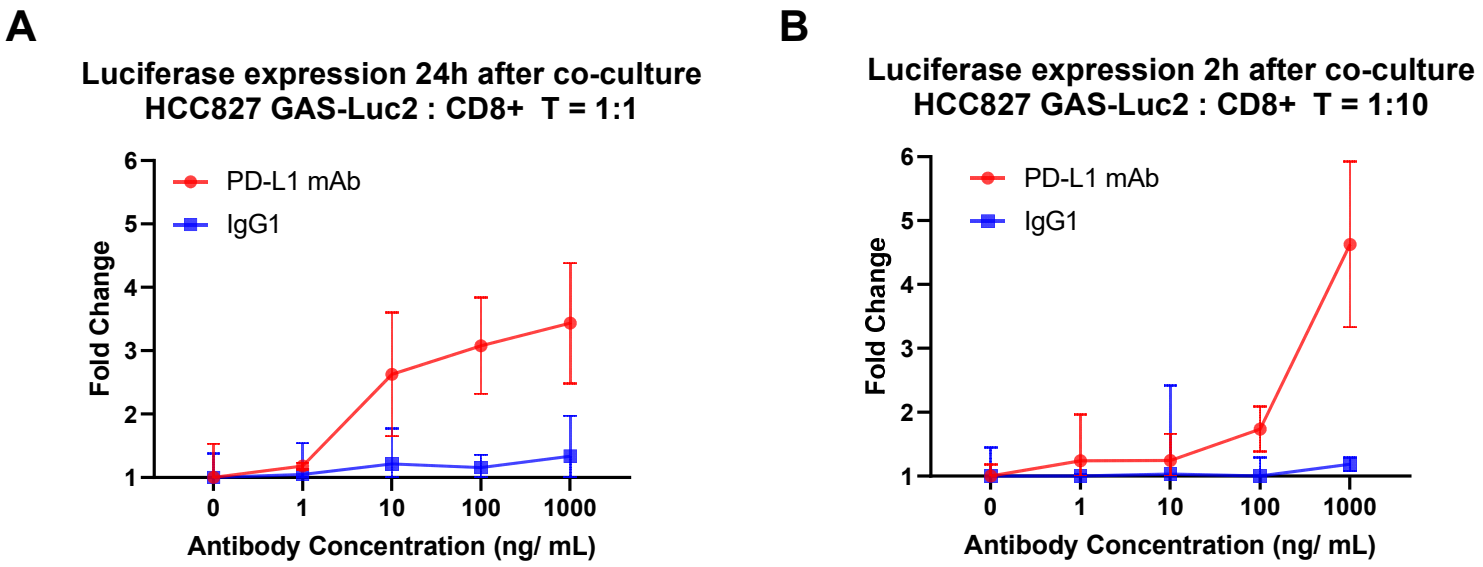
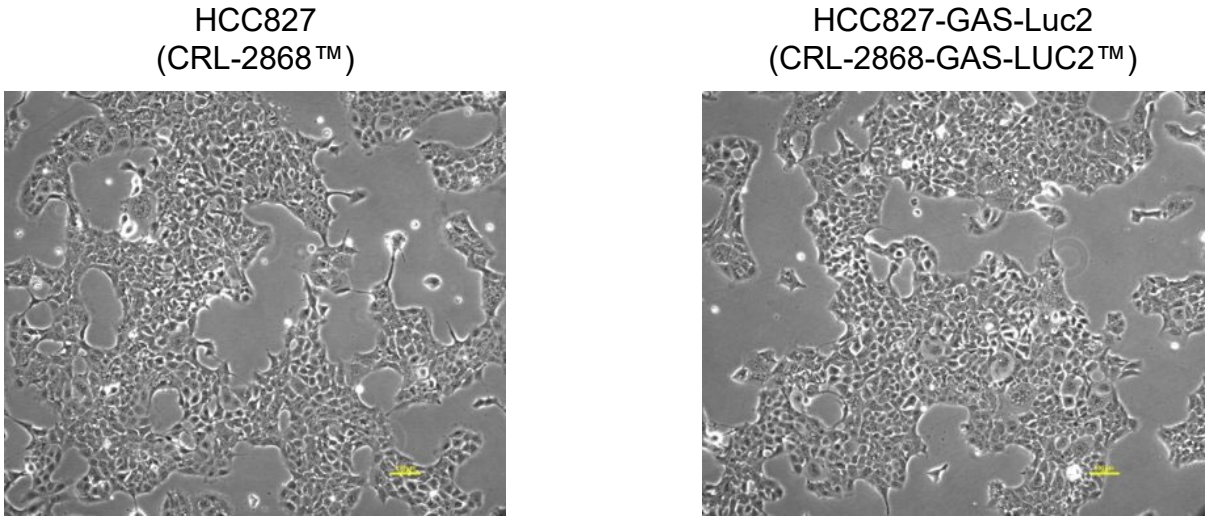


Figure 2. In vitro activation of bioluminescence in co-culture assay. HCC827-GAS-Luc2 cells were co-cultured with 1:1 (A) and 1:10 (B) ratio of CD8+ T cells for 24 and 2 hours, respectively. Different concentrations of PD-L1 mAb were added to block the PD-L1 checkpoint ligand. N=3 in all experiments.

Cell morphology



Doubling time = 39.7 hours

Doubling time = 32.6 hours

Figure 3: Cell morphology of HCC827 parental and HCC827-GAS-Luc2. Cells were maintained in ATCC recommended culture conditions. Cell morphology was observed under microscopy and images were captured by digital camera.