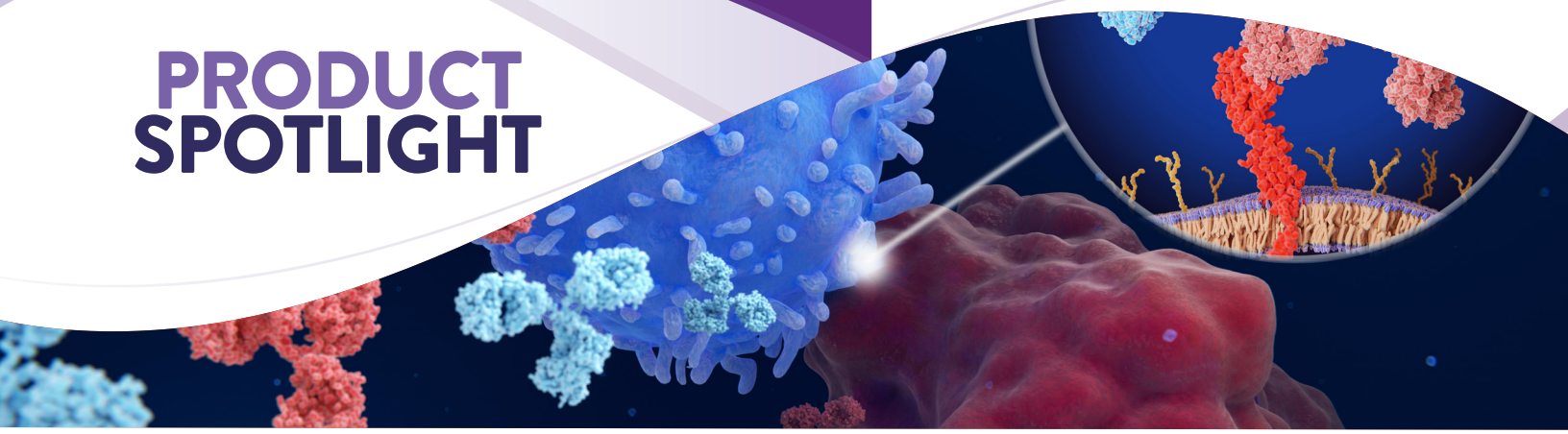
ATCC

PRODUCT SPOTLIGHT

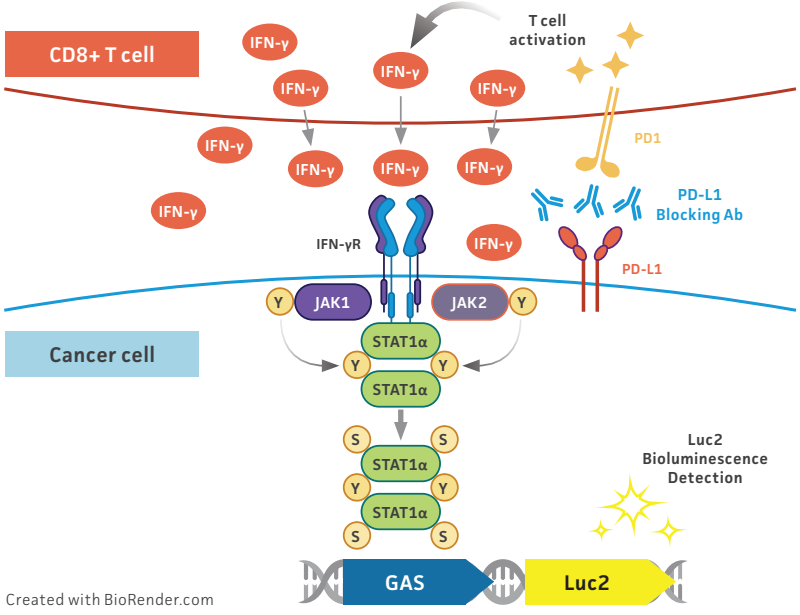


CHECKPOINT LUCIFERASE REPORTER CELLS

Immune checkpoint inhibitors have been successful in treating lung, liver, breast, renal, and skin cancers. However, the complexity of immunological models and variable drug responses among different cancer types pose significant challenges in immuno-oncology. To facilitate large scale drug discovery, ATCC created tumor and immune cell lines with high endogenous expression of checkpoint inhibitory and co-stimulatory expression levels. These cell lines contain gamma interferon activation site (GAS)-response element, nuclear factor of activated T cells (NFAT)-response element, or Nuclear factor kappa-light-chain-enhancer of activated B cells (NFkB,)-response element upstream of the luciferase gene, which can be used to track candidate blocker efficacy. The portfolio includes clinically relevant targets such as PDL1/2, B7-H3, PD1, SIRPA, and SIGLEC10 and can be incorporated into simple blocking assays or sophisticated co-culture cell-based drug screening assays.

Table 1: ATCC Checkpoint Luciferase Reporter Cells

Designation	ATCC® No.	Disease	Biomarker	Tissue of origin	Status
HCC827-GAS-Luc2	CRL-2868-GAS-LUC2™	Adenocarcinoma	PD-L1	Lung	Available
MG-63-GAS-Luc2	CRL-1427-GAS-LUC2™	Osteosarcoma	CD-155	Bone	Available
NCI-H1650-GAS-Luc2	CRL-5883-GAS-LUC2™	Adenocarcinoma	B7-H3	Lung	Available
SUP-T1 [VB]-NFAT-Luc2	CRL-1942-NFAT-LUC2™	Lymphoblastic Lymphoma	PD-1	Pleural effusion	Available
U-937 NFkB-Luc2	CRL-1593.2-NFkB-LUC2™	Histiocytic Lymphoma	SIRPA	Pleural effusion	Available
KG-1 NFkB-Luc2	CCL-246-NFkB-LUC2™	Acute myelogenous leukemia	SIGLEC10	Bone; Marrow	Available
HMC3 NFkB-Luc2	CRL-3304-NFkB-LUC2™	Embryonic Microglia Clone 3	PD-L1, SIRPA	Brain	Coming Soon



Created with BioRender.com

Figure 1: Mechanism of action. Luciferase signal generated by HCC827-GAS-Luc2 cells upon T cell activation through PD-L1 blockade.

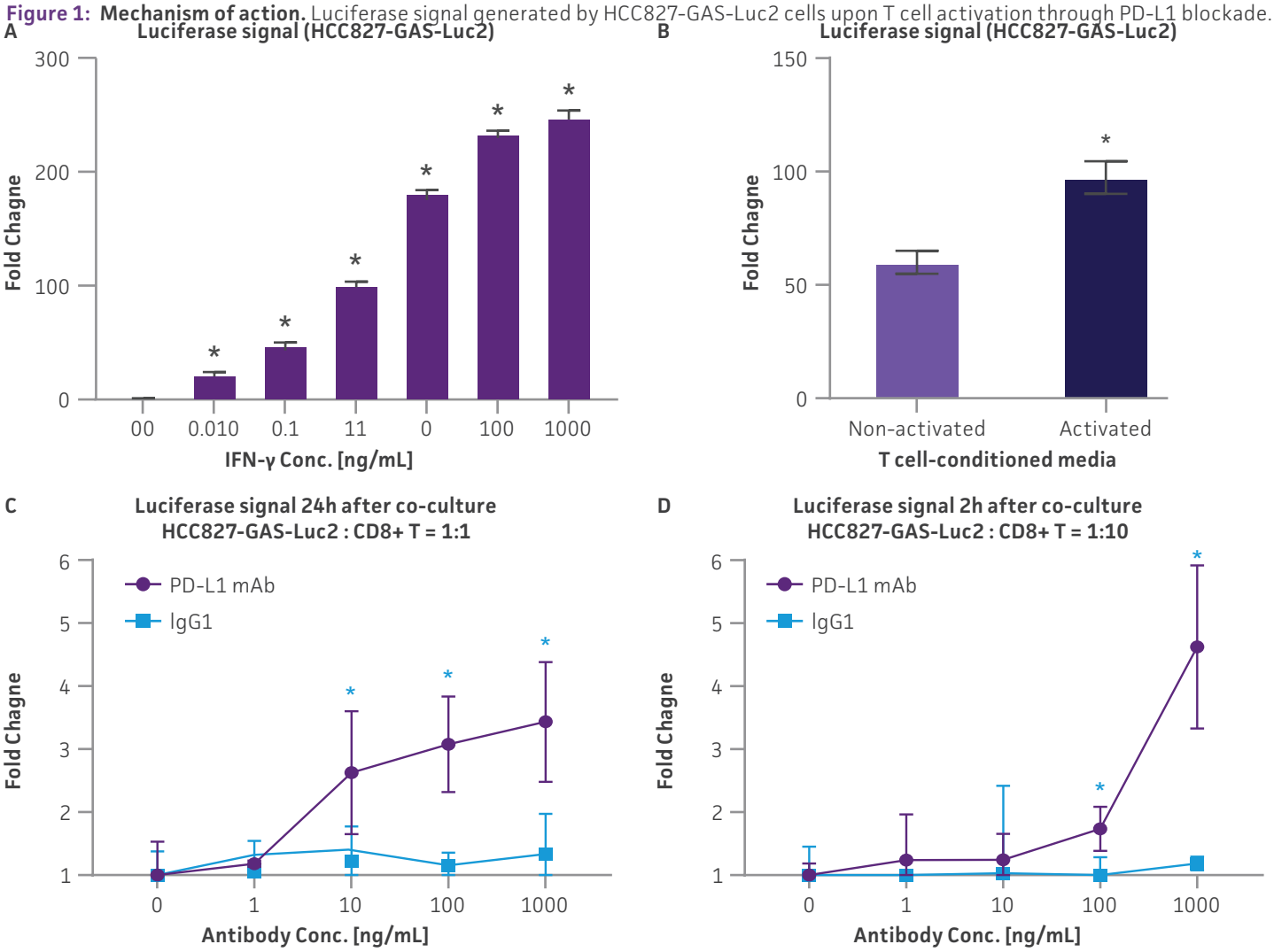


Figure 2: Evaluation of HCC827-GAS-Luc2 cell line. Luciferase expression from HCC827-GAS-Luc2 cells upon signaling activation by (A) IFN-γ stimulation (0.01 – 1,000 ng/ mL), (B) conditioned-media stimulation from checkpoint matched non-activated and activated primary CD8+ T cells, and (C, D) co-culture with primary human CD8+ T cells in the presence of PD-L1 blocking antibody or isotype control IgG1 (1-1,000 ng/mL). N=3 in all experiments. *, $P < 0.05$.

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