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Technical Data Sheet: MG-63-GAS-Luc2

ATCC® Number	CRL-1427-GAS-LUC2™
Organism	*Homo sapiens*
Tissue/Disease Source	Bone/ Osteosarcoma
Product Description	MG-63 cell line (ATCC® CRL-1427™) has fibroblast morphology and is isolated from the bone of an osteosarcoma patient. This luciferase reporter cell line was derived from parental line CRL-1427 by stably expressing firefly luciferase gene (luc2) under 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 IFN-γ-induced GAS signal transduction pathways.
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 CD155, development of new drugs, and safety evaluation of new chemicals and drugs.

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

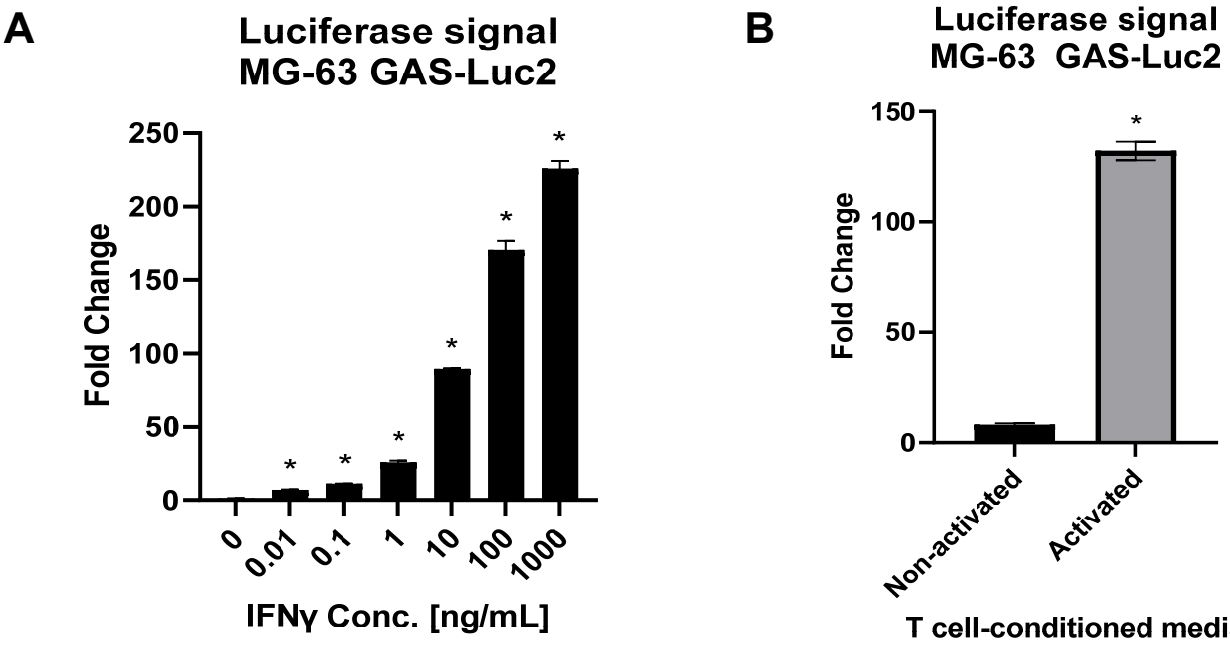


Figure 2. In vitro activation of luciferase expression by IFN-γ and T cell-conditioned media. Luciferase expression from MG-63-GAS-Luc2 cells upon signaling activation by (A) IFN-γ stimulation (0.01 – 1,000 ng/ mL), (B) conditioned-media stimulation from checkpoint matched non-activated and activated primary CD8+ T cells. N=3 in all experiments. *, P < 0.05.

In vitro activation of bioluminescence in co-culture assay

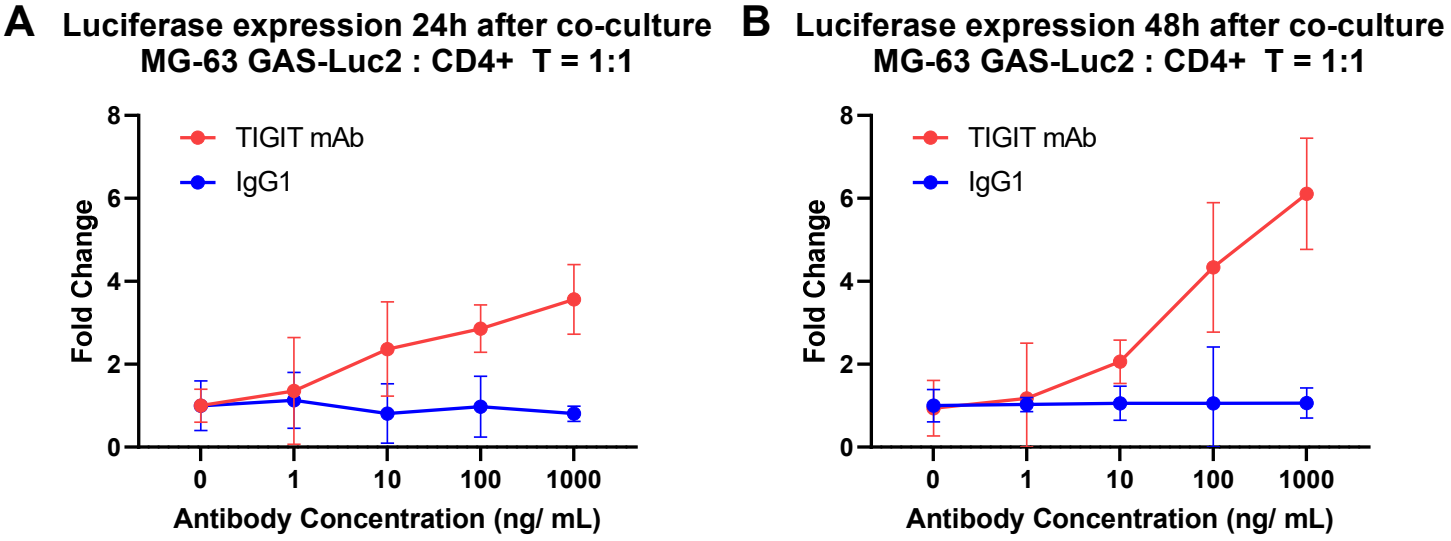
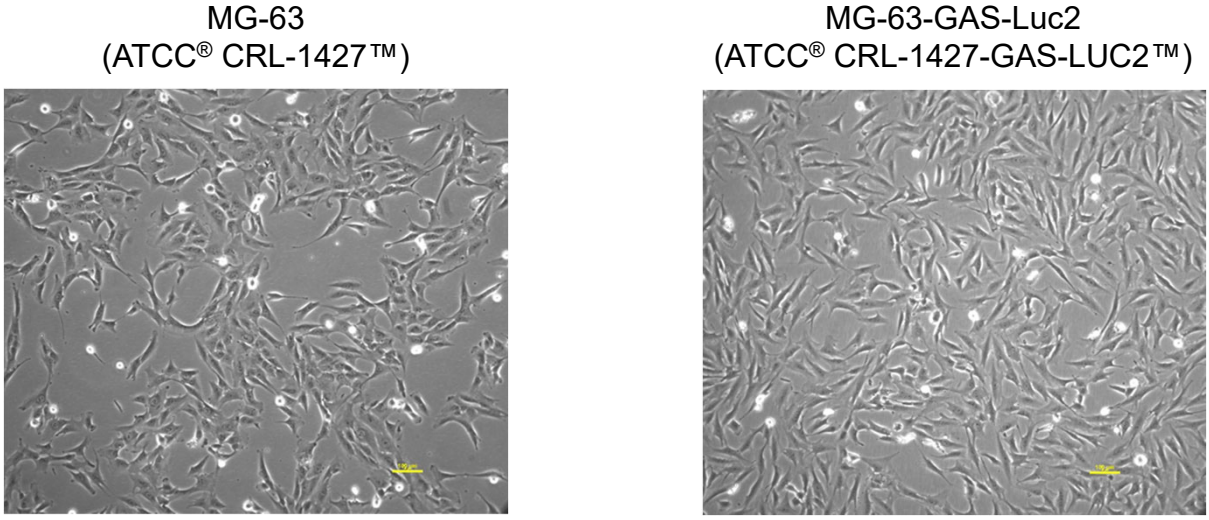


Figure 2. In vitro activation of bioluminescence in co-culture assay. MG-63-GAS-Luc2 cells were co-cultured with 1:1 (E:T) ratio of primary CD4+ T cells for (A) 24 and (B) 48 hours in the presence of a TIGIT antibody or an isotype control. Different concentrations of TIGIT mAb were added to block the CD155-TIGIT immune checkpoint interaction. N=3 in all experiments.

Cell Morphology



Doubling time = 23.0 hours

Doubling time = 26.9 hours

Figure 3: Cell morphology of MG-63 parental and MG-63-GAS-Luc2. Cells were maintained in ATCC recommended culture conditions. Cell morphology was observed under microscopy and images were captured by digital camera.