

GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 Cells

Catalog Numbers – K1783

Cell Line Descriptions

GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 cells contain the human Glucagon-like Peptide 1 Receptor (GLP1R), (Accession # NM_002062) stably integrated into the CellSensor® CRE-*bla* CHO-K1 cell line. CellSensor® CRE-*bla* CHO-K1 cells (Cat. no. K1535) contain a beta-lactamase reporter gene under control of the CRE.

The GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 cells are functionally validated for Z'-factor and EC₅₀ concentrations of GLP-1 (Figure 1). In addition, GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 cells have been tested for assay performance under variable conditions.

Validation Summary

Testing and validation of this assay was evaluated in a 384-well format using LiveBLAzer™-FRET B/G Substrate.

1. GLP-1 dose response under optimized conditions

	<u>Dividing Cells</u>
EC ₅₀	197 pM
Z'-factor	0.67
Recommended cell no. /well	= 10,000
Recommended Stim. Time	= 5 hrs
Max. [Stimulation]	= 10 nM

2. Agonist 2nd messenger dose response

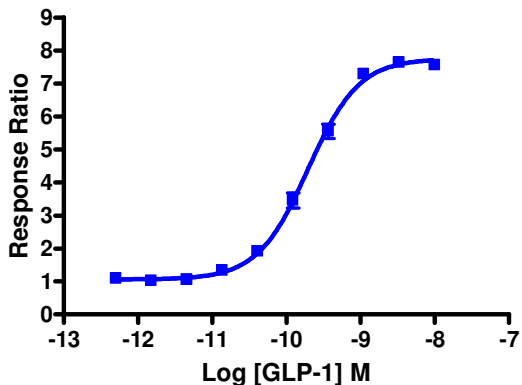
GLP-1 EC₅₀ = 488 pM

3. Antagonist dose response

Exendin-3 (9-39) IC₅₀ = 70 nM

Primary Agonist Dose Response

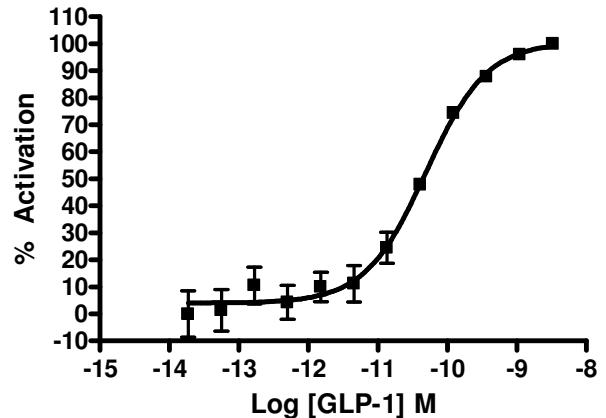
Figure 1 — GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 cells dose response to GLP-1 under optimized conditions



GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 cells (10,000 cells/well) were plated in a 384-well format and incubated for 16-20 hours. Cells were stimulated with a dilution series of GLP-1 (Sigma G3265) in the presence of 0.1% DMSO for 5 hours. Cells were then loaded with LiveBLAzer™-FRET B/G Substrate for 2 hours. Fluorescence emission values at 460 nm and 530 nm were obtained using a standard fluorescence plate reader and % Activation plotted for each replicate against the concentrations of GLP-1.

2nd Messenger Dose Response

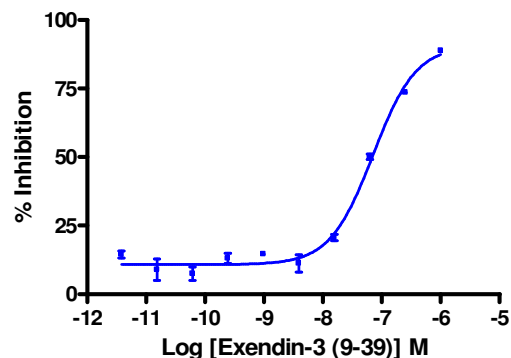
Figure 2 — GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 2nd messenger dose response to GLP-1 under optimized conditions.



GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 cells were tested for a response to GLP-1 using a TR-FRET cAMP kit.

Antagonist Dose Response

Figure 3 — GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 dose response to Exendin-3 (9-39)



GeneBLAzer® GLP1R-CRE-*bla* CHO-K1 cells (10,000 cells/well) were plated in a 384-well format and incubated for 16-20 hours. Cells were exposed to Exendin-3 (9-39) (Tocris 2081) for 30 min. and then stimulated with an EC80 concentration of GLP-1 (Sigma G3265) in the presence of 0.1% DMSO for 5 hours. Cells were then loaded with LiveBLAzer™-FRET B/G Substrate for 2 hours. Fluorescence emission values at 460 nm and 530 nm for the various substrate loading times were obtained using a standard fluorescence plate reader and the % Inhibition plotted against the indicated concentrations of Exendin-3 (9-39).