Validation data for HT29-Lucia™ AhR Cells

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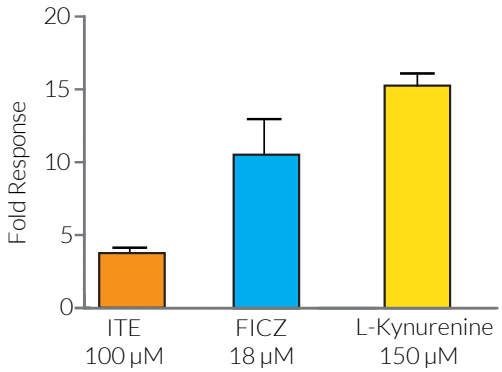
Version 18K27-NJ

HT29-Lucia™ AhR cells are engineered from the human HT-29 colorectal adenocarcinoma cell line which expresses endogenous aryl hydrocarbon receptor (AhR). Their anatomical origin and ability to differentiate into intestinal enterocyte-like cells and mucus-producing cells make these cells highly relevant for studying intestinal microbiota-related ligands for AhR. Furthermore, HT29-Lucia™ AhR cell-based assay is an adequate model to study AhR signaling in intestinal cancerous cells. HT29-Lucia™ AhR cells stably express the secreted Lucia luciferase reporter gene under the control of a minimal promoter coupled with the human Cyp1a1 gene entire regulatory sequence, which contains six DREs. The Lucia luciferase reporter protein is readily measurable in the cell culture supernatant by using QUANTI-Luc™. HT29-Lucia™ AhR cells respond to TCDD, as well as to tryptophan-derived compounds such as indole-3-acetic acid (IAA), 2-(1'H-indole-3'-carbonyl)-thiazole-4-carboxylic acid methyl esther (ITE), 6-formylindolo[3,2-b]carbazole (FICZ) and L-Kynurenine.
Importantly, in HT29-Lucia™ AhR cells, Lucia luciferase is not induced by other pattern recognition receptor ligands.

Evaluation of AhR-induced responses in HT29-Lucia™ AhR cells



Induction of AhR activity by tryptophan byproducts in HT29-Lucia™ AhR cells. The cells were incubated with 100 µM ITE, 18 µM FICZ, or 150 µM L-Kynurenine. After overnight incubation, the AhR activation was assessed by determining Lucia luciferase activity in the supernatant using QUANTI-Luc™. Data are expressed as fold responses as compared to non-induced cells.

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