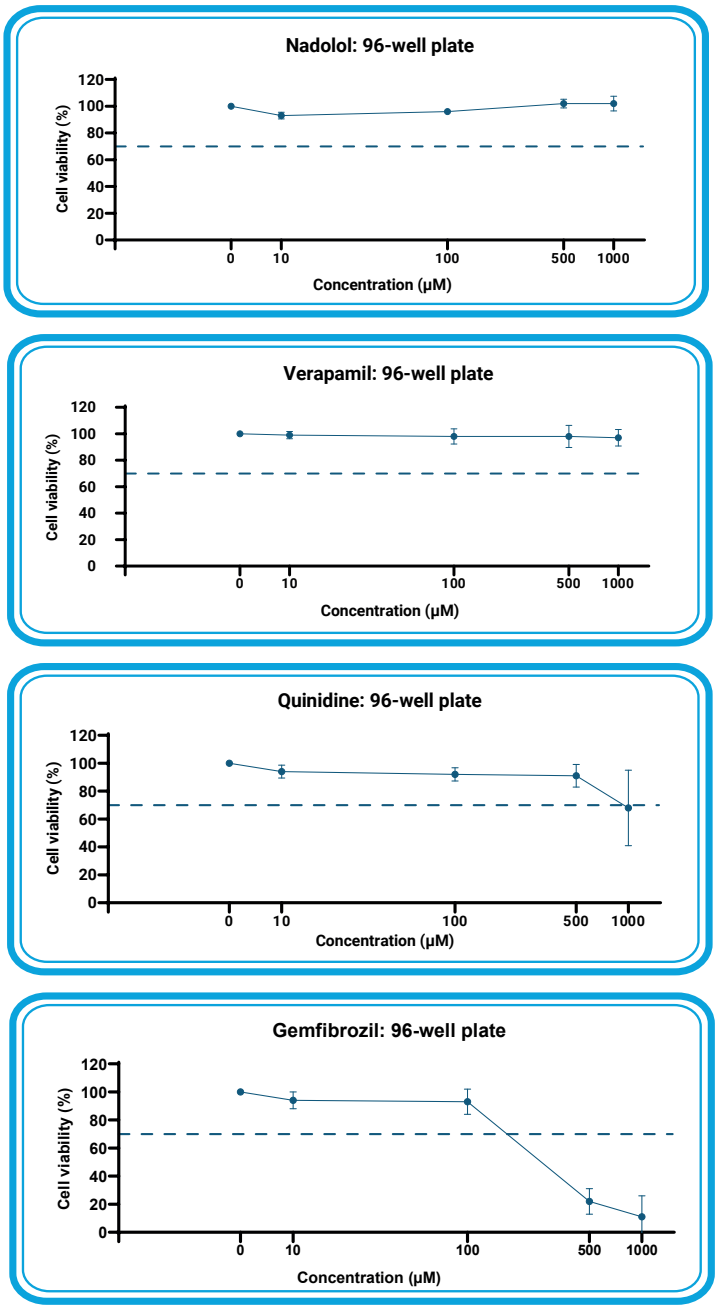
CacoReady for assessing Drug-induced Diarrhea Experimental Data

The traditional method for testing drug-induced diarrhea involves measuring cell viability in undifferentiated human adenocarcinoma-derived (Caco-2) cells grown on 96-well plates. ReadyCell compared the sensitivity and predictive value of this approach with those of Transepithelial Electrical Resistance (TEER) and Lucifer Yellow Paracellular Flux (LY PF), which are two early-stage indicators of barrier disruption in 21-day differentiated Caco-2 cells grown on a transwell system (**CacoReady**).

Cell Viability **TEER** **LY PF** **Acceptance Criteria**



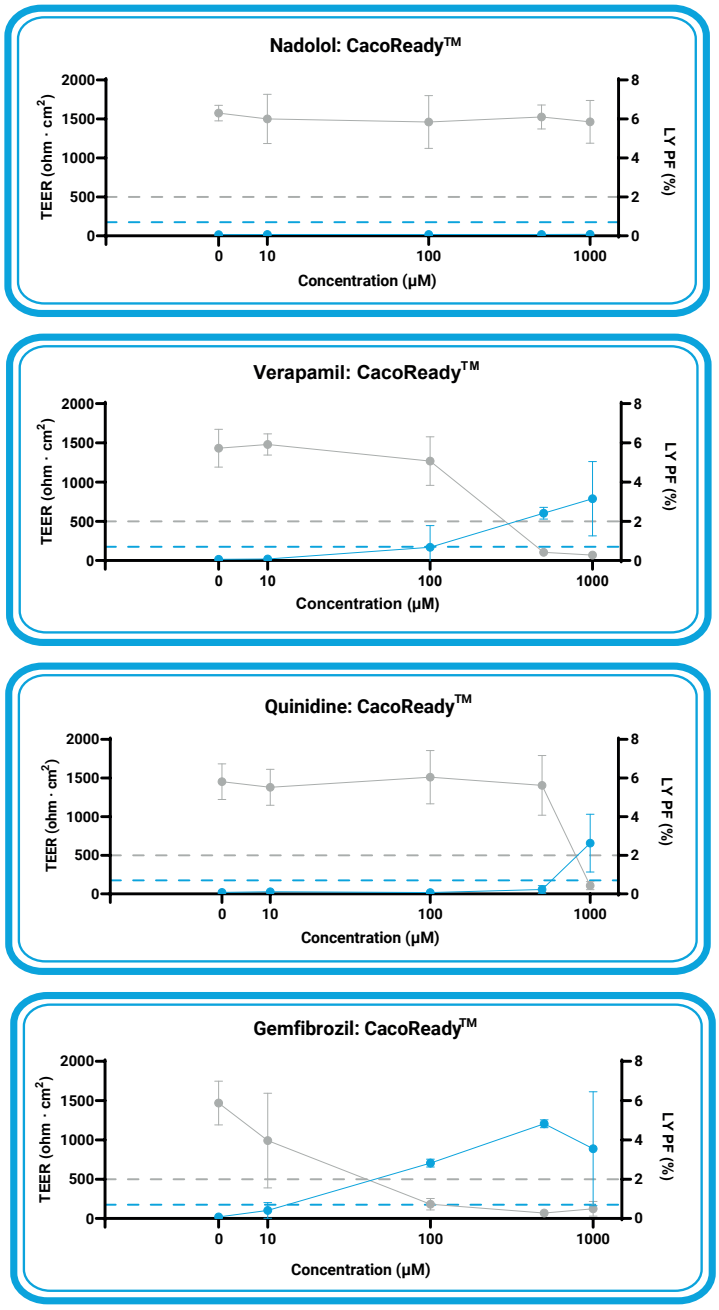


Figure 1. *Predictive value of metabolically active cells, a late-stage indicator to evaluate drug-induced diarrhea. Caco-2 cells grown on 96-well plates were exposed to quinidine, verapamil, and gemfibrozil, two moderately and highly toxic compounds respectively, and to Nadolol, their non-toxic counterpart. After 24-hr incubation, viable cells were quantified by the Alamar Blue cell viability assay. Data are the mean of 3 independent experiments.*

Figure 2. *Predictive value of CacoReady and the two early-stage indicators (TEER and LY-PF) of cell barrier integrity to evaluate drug-induced diarrhea. CacoReady plates were exposed for 24-hr to quinidine, verapamil, and gemfibrozil, two moderately and highly toxic compounds respectively, and to Nadolol, their non-toxic counterpart. Cell barrier disruption was assessed by measuring TEER and LY PF (reference values: 500 ohms x cm2 and 0.7 %, respectively). Data are the mean of 3 independent experiments.*

CacoReady and its two early-stage indicators of cell barrier integrity **(TEER and LY PF)** is more sensitive at predicting drug-induced diarrhea than the conventional 96-well plate.

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