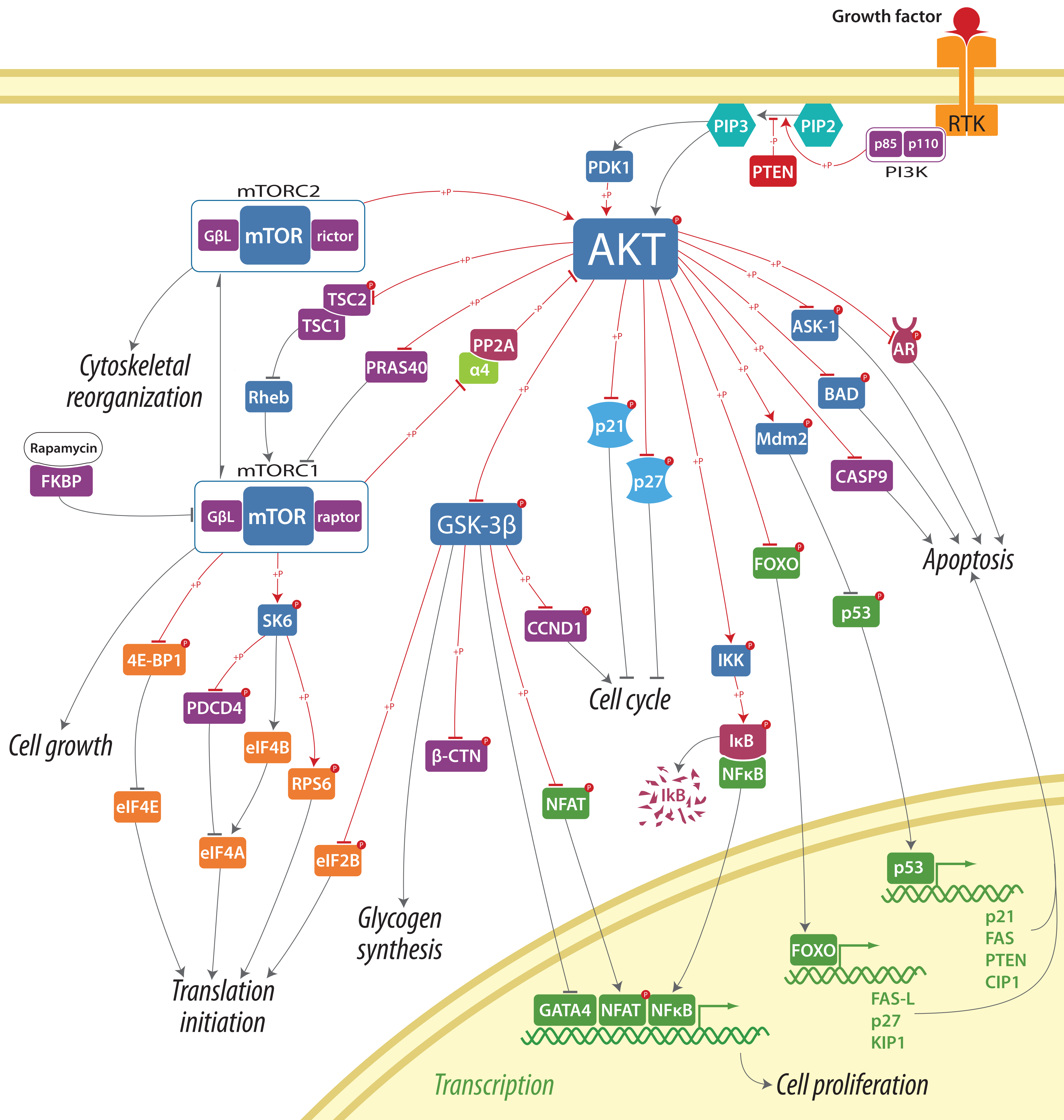
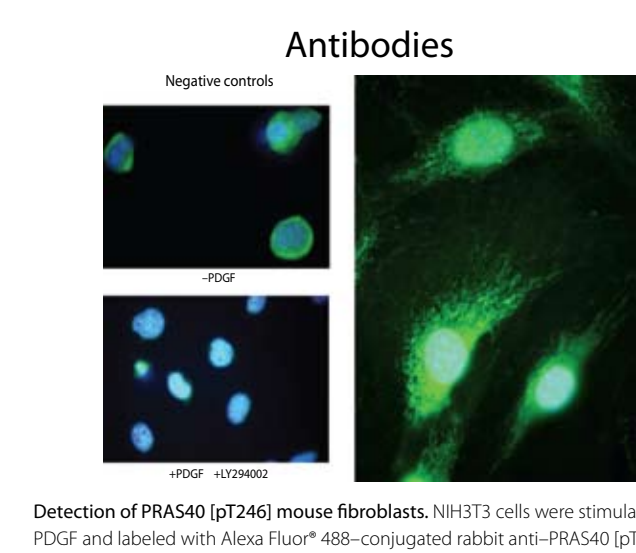


Akt/mTOR Signaling Pathway

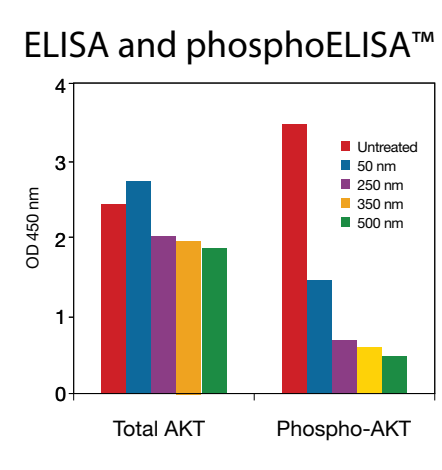


Your path to performance

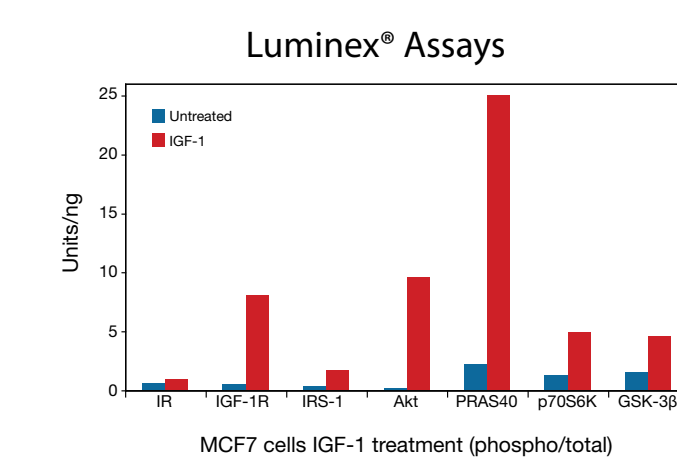
Empower your research today using Invitrogen's comprehensive portfolio of products and services to investigate the Akt/mTOR pathway: everything from high-quality reagents for basic research and assay development, validated biochemical and cell-based assays, and world-class profiling and screening services. Learn more at www.invitrogen.com/akt.



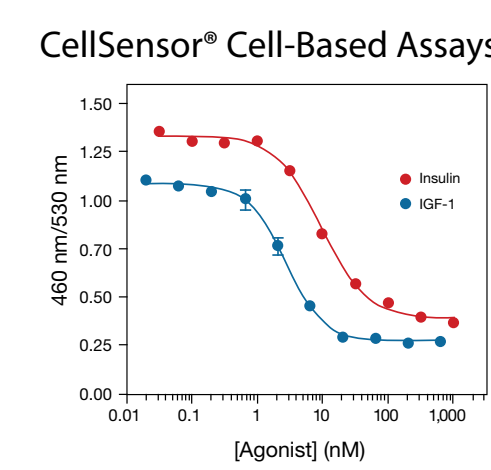
Detection of PRAS40 [pT246] mouse fibroblasts. M11373 cells were stimulated with PDGF and labeled with Alexa Fluor[®] 488-conjugated rabbit anti-PRAS40 [pT246] antibody.



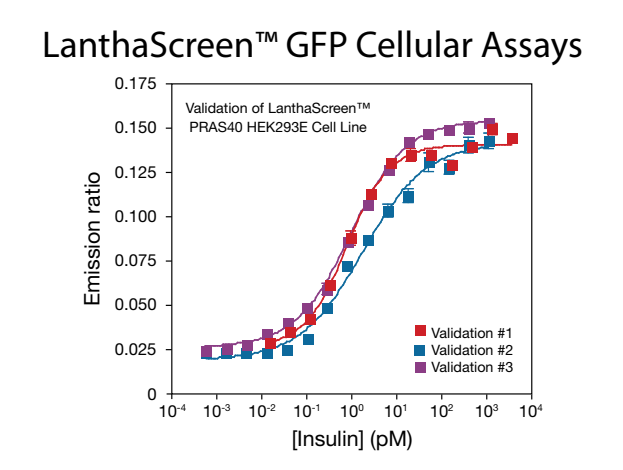
Detection of phosphorylated Akt. Jurkat cells were treated with wortmannin at increasing concentrations, lysed and assayed in parallel for Akt (total) and Akt [pS473]. The level of total Akt remained comparable, while the levels of phosphorylation at serine residue 473 decreased with increasing dose of wortmannin.



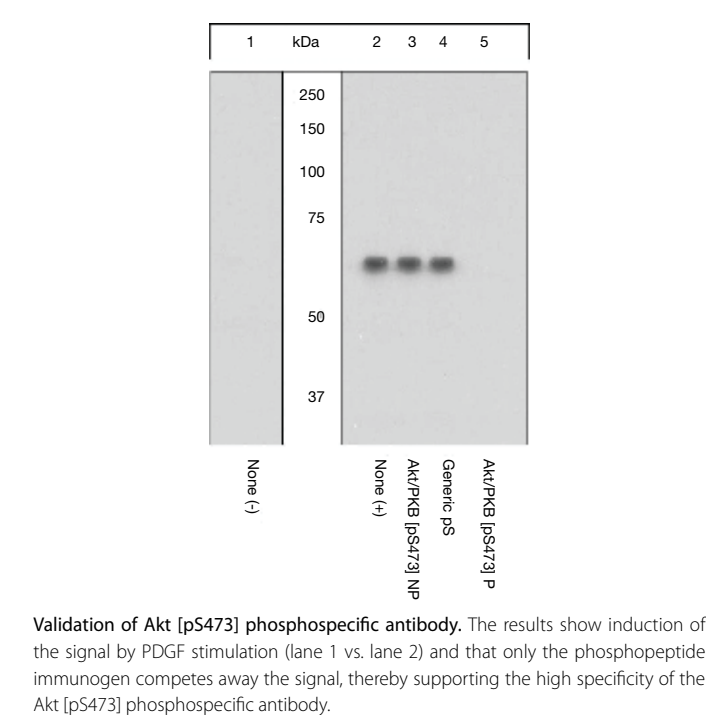
Simultaneous detection of phosphorylation levels of seven analytes. MCF cells were serum starved for 15 hours in the presence of sodium vanadate and either left untreated, or treated with 100 ng/ml of IGF-1 for 1 hour. Phosphorylation levels were detected using Akt Pathway Phospho-7-Plex Kit for use in the Luminesx[®] 100™ or 200™ System.



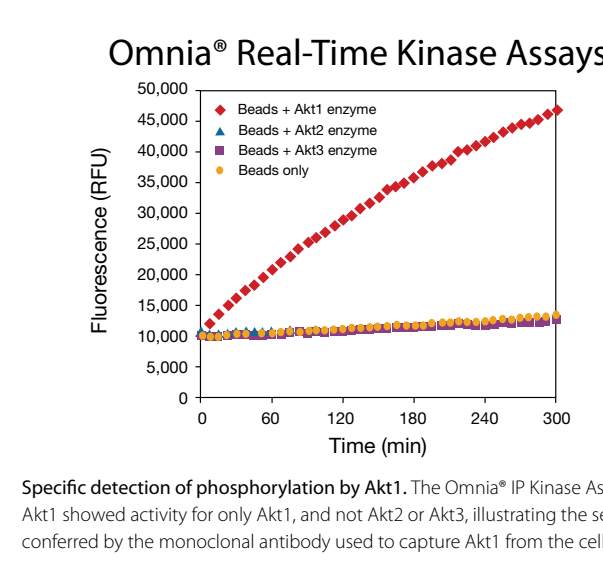
Analysis of growth factor stimulation of Akt signaling cascade. The T-REX[™] FOXO3 D8E-660 HeLa CellSensor[™] cell line was treated with doxycycline to induce expression of FOXO3 and then assayed for response to the growth factors insulin and IGF-1. The dose-response curves generated expected EC₅₀ values, and Z'-factor values >0.70 were observed.



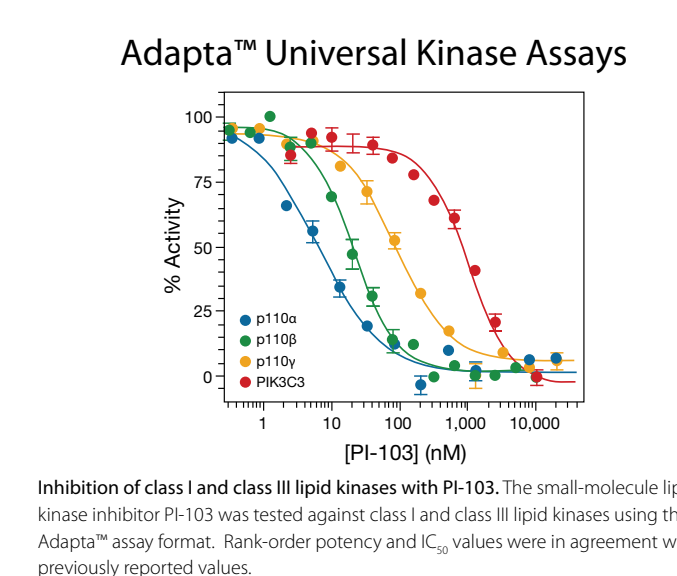
Insulin-induced phosphorylation of LanthaScreen[™] PRAS40 HEK293E cells. LanthaScreen[™] PRAS40 HEK293E cells were assayed following insulin induction on 3 separate days represented by the 3 dose-response curves shown on the graph. Overall, the assay displays excellent statistical data (Z'-factor >0.6) and high signal to background (response ratio), and is a robust cell-based readout of Akt signaling.



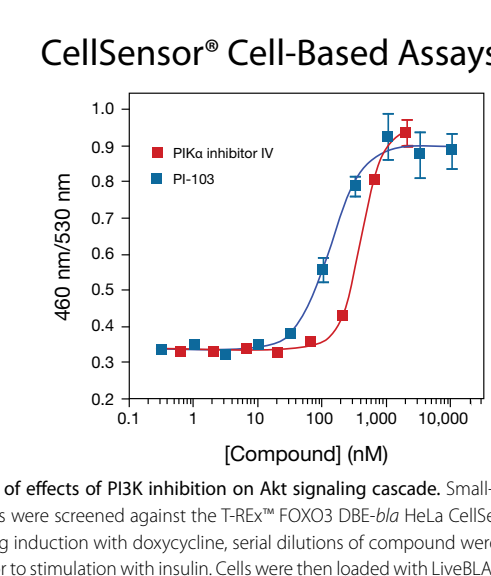
Validation of Akt [pS473] phosphospecific antibody. The results show induction of the signal by PDGF stimulation (lane 1 vs. lane 2) and that only the phosphopeptide immunogen competes away the signal, thereby supporting the high specificity of the Akt [pS473] phosphospecific antibody.



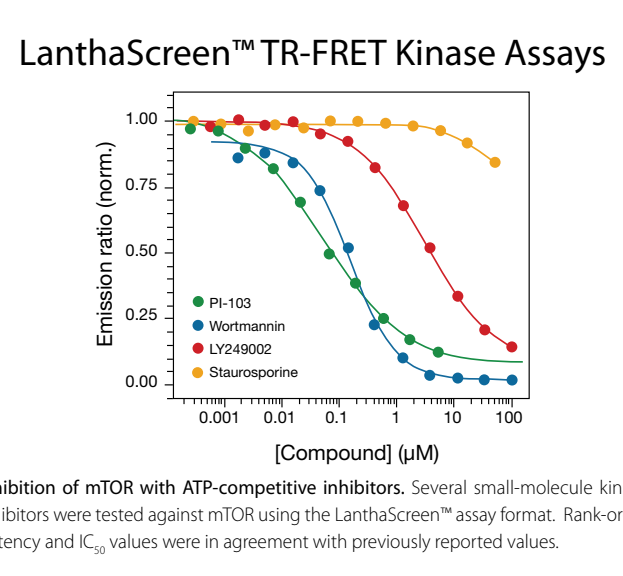
Specific detection of phosphorylation by Akt1. The Omnia[™] IP Kinase Assay for Akt1 showed activity for only Akt1, and not Akt2 or Akt3, illustrating the selectivity conferred by the monoclonal antibody used to capture Akt1 from the cell lysate.



Inhibition of class I and class III lipid kinases with PI-103. The small-molecule lipid kinase inhibitor PI-103 was tested against class I and class III lipid kinases using the Adapta[™] assay format. Rank-order potency and IC₅₀ values were in agreement with previously reported values.



Analysis of effects of PI3K inhibition on Akt signaling cascade. Small-molecule PI3K inhibitors were screened against the T-REX[™] FOXO3 D8E-660 HeLa CellSensor[™] cell line following induction with doxycycline. Serial dilutions of compound were added to the cells prior to stimulation with insulin. Cells were then loaded with LiveBlazer[™] substrate, and the FRET emission ratios are plotted.



Inhibition of mTOR with ATP-competitive inhibitors. Several small-molecule kinase inhibitors were tested against mTOR using the LanthaScreen[™] assay format. Rank-order potency and IC₅₀ values were in agreement with previously reported values.