ClariCELL™ KDR (VEGFR-2) Kinase Assay Service

Description

The ClariCELL™ KDR Kinase Assay quantifies autophosphorylation of human full-length KDR in human cells. The assay is useful to determine potencies of small-molecule inhibitors against the specified kinase in the context of a cellular environment. Compound testing services are available utilizing the assay.

Overview

Human Embryonic Kidney (HEK 293) cells transiently expressing sequence verified human full-length KDR are exposed to test compound or control, then lysed to release cellular proteins. KDR is captured onto an assay plate, and the extent of autophosphorylation is quantified by ELISA using an antibody specific for the phosphorylation event. Cells expressing kinase deficient KDR [K868M] are also utilized as controls to calculate the % inhibition of test compounds.

Assay Validation

KDR Expression in Cells

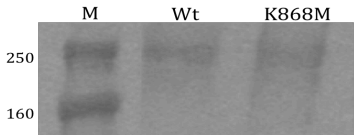

Figure 1: Wild type (wt) or kinase dead (K868M) KDR was expressed transiently in 293 cells. Following cell lysis, an IP Western was performed with appropriate antibodies to capture and detect total KDR protein.

KDR Autophosphorylation in Cells

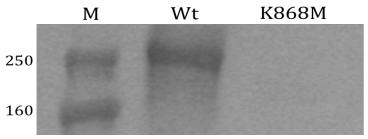

Figure 2: Wild type (wt) or kinase dead (K868M) KDR was expressed transiently in 293 cells. Following cell lysis, an IP Western was performed with appropriate antibodies to capture and detect phospho-KDR protein.

Quantification of Phosphorylation

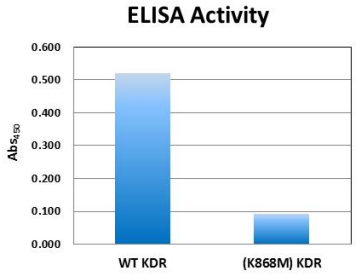

Figure 3: Wild type (wt) or kinase dead (K868M) KDR was expressed transiently in 293 cells. Following cell lysis, an ELISA was performed to quantify the extent of auto-phosphorylation of KDR.

Reference Inhibitor Data

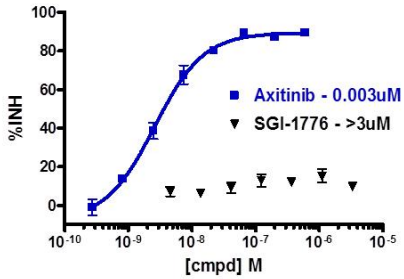

Figure 4: An autophosphorylation assay was performed in the presence of Axitinib, a KDR inhibitor, and SGI-1776, a compound that is not expected to inhibit KDR. % inhibition data were plotted to determine EC50s.