

# AlphaScreen® SureFire® phospho-Akt 1/2/3 (Thr308) Kit

TGRA3S500TK

TGRA3S500

TGRA3S10K

TGRA3S50K

Akt (also known as PKB) plays a central role in cell survival and inhibiting apoptosis, by phosphorylating and inactivating several pro-apoptotic targets. Akt is activated by insulin and various growth factors, which promotes phospholipid binding and localisation at the plasma membrane, where the activation loop is phosphorylated at Thr308 by PDK1. The carboxy terminus is phosphorylated at Ser473 by mammalian target of rapamycin complex 2 (TORC2). Akt substrates include Bad, forkhead transcription factors, and caspase-9. Another vital Akt function is the regulation of glycogen synthesis through phosphorylation of GSK-3 $\alpha$  and  $\beta$ . Akt phosphorylation also prevents GSK-3 $\beta$  mediated phosphorylation and degradation of cyclin D1, and negatively regulates the cyclin dependent kinase inhibitors p27 Kip and p21 Waf1/CIP1. Akt also plays a critical role in the regulation of TORC1 and tuberlin (TSC2).

