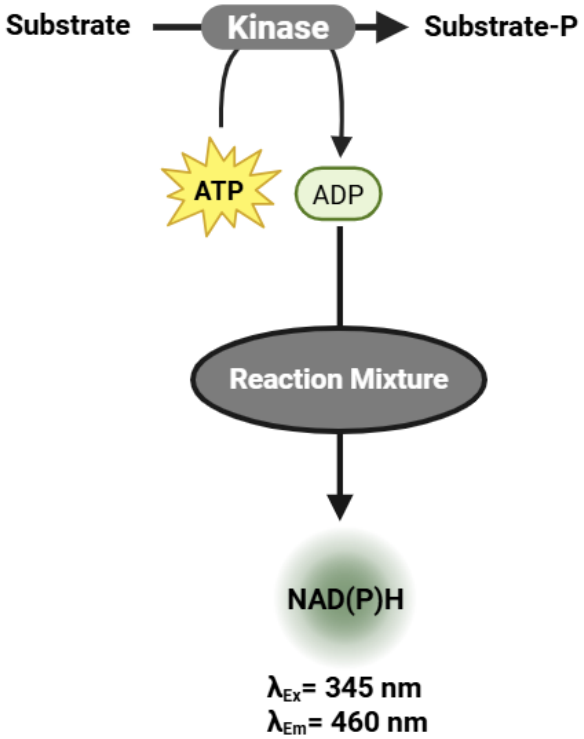
# Kinase Assay

**UKC™ 1.0 – Universal Kinase Continuous Assay**
**Real-time, standardized detection of kinase activity**




## Key Features

**Universal Kinase Compatibility**
Supports diverse kinase classes—serine/threonine, tyrosine, lipid, and metabolic kinases—independent of substrate identity.

**Continuous Real-Time Readout**
NADPH fluorescence is monitored continuously, enabling precise measurement of phosphorylation rates, catalytic efficiency, and substrate preference.

**Robust Coupled-Enzyme System**
An optimized combination of sugar kinases and glucose-6-phosphate dehydrogenase converts **ADP release** into a strong, highly sensitive fluorescent signal.

**Standardized Platform for Inhibitor Discovery**
Fixed reaction chemistry ensures high reproducibility, making UKC™ 1.0 suitable for **high-throughput inhibitor screening, $IC_{50}$ determination, mode-of-inhibition studies**, and comparative profiling of inhibitor or substrate libraries.

## Assay Principle

The UKC™ assay couples the kinase phosphorylation reaction to NADPH formation.
As a kinase transfers a phosphate group from ATP to its substrate, **ADP is released**.
In the coupled system, ADP is rapidly converted through sugar kinase activity into intermediates that drive **$NADP^+$ → NADPH** reduction.
The **rate of NADPH fluorescence increase directly reflects kinase activity**, enabling real-time kinetic analysis.

## Kit Components

**Enzyme Cocktail**
– Sugar kinases optimized to efficiently convert ADP released from kinase reactions
– Glucose-6-phosphate dehydrogenase tuned for continuous $NADP^+$ reduction and stable fluorescent output

**Assay Buffer**
– Formulated for broad kinase compatibility, including required intermediate substrates

**Optional Add-Ons (upon request)**
– Positive control kinase
– Positive control peptide or protein substrate

**User Guide**
– Detailed protocol for kinetic assays, substrate profiling, and high-throughput inhibitor screening (HTS)