

Enzyme and metabolite assays

In assays of enzymes and metabolites, ATP can be continuously monitored over time in ATP-forming and ATP-depleting reactions by adding ATP Reagent SL to the reaction mixture (see Figure 1).

- The calculated assay result is not affected by inhibitors of luciferase.
- Reconstituted ATP Reagent SL can be used for 3 months if stored in a refrigerator.
- Wide linear range from 10^{-12} to 10^{-6} mol/L.

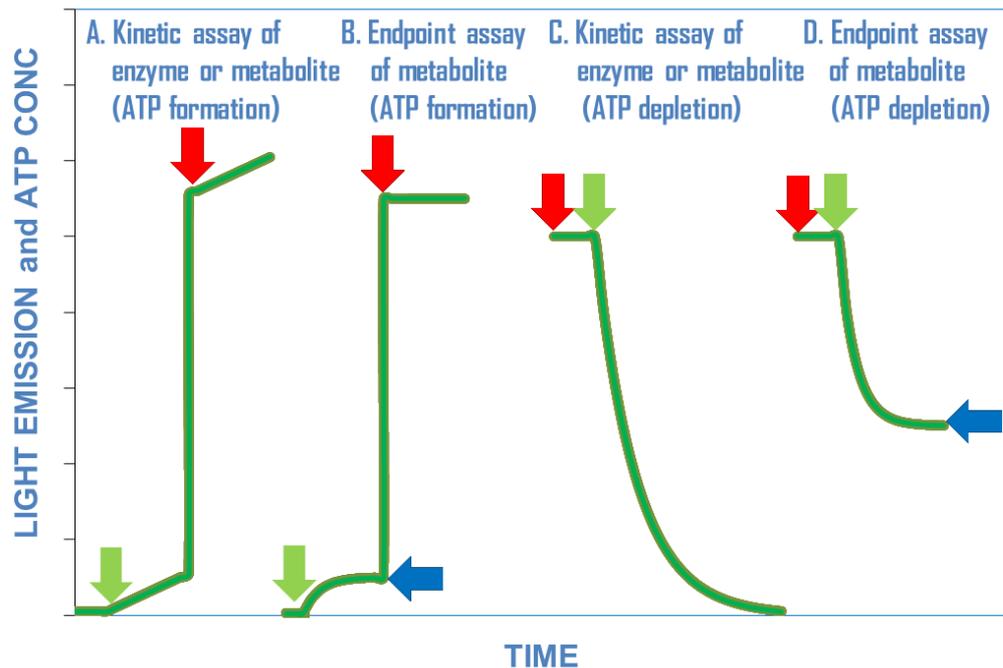


Figure 1: The various types of assays that can be monitored using the ATP Kit SL. Addition of starting reagent, reaching the endpoint and addition of ATP standard are shown with green, blue, and red arrows. The use of a known amount of ATP standard for calibration allows calculation of ATP in moles or moles per minute rather than light units.

Examples of applications

1. Enzymes and metabolites (kinetic ATP formation): ADP, pyruvate kinase, adenylate kinase, creatine kinase isoenzymes, farnesyl pyrophosphate synthase
2. Metabolites (endpoint ATP formation): ATP/ADP/AMP, phosphocreatine, pyrophosphate
3. Enzymes and metabolites (kinetic ATP depletion): protein kinases, aminoacyl-tRNA synthetase, ATPases, glycerol
4. Metabolites (endpoint ATP depletion): urea, calibration of ATP standards using a glucose standard
5. ATP Kit SL can also be used to continuously monitor cell lysis, oxidative phosphorylation, photophosphorylation, and pyrosequencing

References and more details are found in our application notes