INTERVAL REVIEW QUESTION

Both ATP and ADP serve as regulators of enzyme activity.
In catabolic pathways, which of these two molecules
would you predict acts as an inhibitor?
Which would act as an activator?

Specific Localization of Enzymes Within the Cell
Enzymes for several steps of a metabolic pathway may
be associated in a multienzyme complex, facilitating the
sequence of reactions. Specialized cellular compartments
may contain high concentrations of the enzymes
and substrates needed for a particular pathway.
Enzymes are often incorporated into the membranes
of cellular compartments. The complex internal structures
of the cell facilitate metabolic order.

Word Roots

allo- = different (allosteric regulation: the binding of a
regulatory molecule at one site that affects the
function of the protein at a different site)
ana- = up (anabolic pathway: a metabolic pathway that
consumes energy to synthesize a complex mole-
cule from simpler compounds)
bio- = life (biogenesis: the overall flow and transfor-
mentation of energy in an organism)
cata- = down (catabolic pathway: a metabolic pathway
that releases energy by breaking down complex
molecules into simpler compounds)
endo- = within (endergonic reaction: a nonspontaneous
chemical reaction in which free energy is absorbed
from the surroundings)
ex- = out (exergonic reaction: a spontaneous reaction, in
which there is a net release of free energy)
kinet- = movement (kinetic energy: the energy of
motion)
therm- = heat (thermodynamics: the study of the energy
transformations that occur in a collection of
matter)

Answer Key!