

FAQs

Frequently Asked Questions

PN 78334



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OptiKinase™ [PN 78334X/Y/Z]

Q. Would OptiKinase™ be useful for 5'-phosphorylation of a pool of different oligonucleotides?

A. Yes, OptiKinase™ is a non-discriminatory kinase that overcomes the base bias associated with wild-type T4 PNK. OptiKinase accomplishes more uniform phosphorylation of many different oligonucleotides in a sample without the need for extensive optimization of reaction conditions.

Q. Is OptiKinase easier to use than wild-type T4 PNK?

A. Yes, OptiKinase is easier to use because it eliminates the need for extensive optimization of reaction conditions.

Q. How would I benefit from using OptiKinase, considering that for my application I can control the identity of the 5'-nucleotide of each oligonucleotide and thus can use 5'-G oligonucleotides and avoid the base bias problem?

A. Labeling to a higher specific activity may still be achieved, even with 5'-G oligonucleotides. In our experience OptiKinase consistently outperforms wild-type T4 PNK for labeling of oligonucleotides, even those with a 5'-G.

Q. What is the benefit of using OptiKinase, if using a 5-fold molar excess of radiolabeled γ -ATP relative to oligonucleotide with wild-type T4 PNK?

A. OptiKinase allows labeling of oligonucleotides to high specific activities with lower amounts of radiolabeled γ -ATP, in comparison to wild-type T4 PNK.

Q. What is the difference between OptiKinase and wild-type T4 PNK?

A. OptiKinase is a recombinant version of T4 PNK that has been engineered to obtain more uniform 5' phosphorylation of different oligonucleotides. Unlike wild-type T4 PNK, it has no base bias, making it a superior choice for 5' phosphorylation. OptiKinase has no 3' phosphatase activity.

Q. Does OptiKinase perform better than wild-type T4 PNK for phosphorylation of double-stranded DNA?

A. Yes, OptiKinase labels all DNA more uniformly than wild-type T4 PNK.