PCR Enhancer Cocktail 2GC Cat #: E630

Amount: 5 x 1.25 ml (500 x 25 ul reactions)
Shipping conditions: Ambient temperature
Storage conditions: -20° C
Application: Include PEC as one half the volume of your PCR reaction (add 25µl to each 50µl PCR reaction or 12.5µl to each 25µl PCR reaction.)
Shelf life: at least 6 months at -20° C. Note: some crystallization may occur over time. The solution can be restored by soaking at 50°C.

PRODUCT DESCRIPTION:
In an attempt to overcome PCR inhibition, enhance PCR amplification, and simplify the PCR protocol, we developed a family of PCR enhancing cocktails (PECs). These cocktails, in combination with our inhibition-resistant Taq mutants, OmniTaq and Omni Klentaq, enable efficient amplification of exogenous, endogenous, and high GC-content DNA targets directly from crude samples containing human plasma, serum and whole blood **without DNA purification**. In the presence of these enhancer cocktails, the mutant Taq enzymes can tolerate at least 25% plasma, serum, or whole blood, and as high as 80% GC content templates in PCR. These enhancer cocktails also improved the performance of the novel Taq mutants in real-time PCR amplification using crude samples, both in SYBR Green fluorescence detection and TaqMan assays. The novel enhancer mixes facilitate DNA amplification from crude samples with most commercial Taq DNA polymerases. Please note: PECs do NOT perform well with AmpliTaq Gold.

Selection of Proper PCR Enhancer Cocktail

	PEC-1	PEC-1-GC	PEC-2	PEC-2-GC
Purified DNA	√	√	-	-
Heparin treated blood	√	√	-	-
Citrate treated blood	√	√	√	√
EDTA treated blood	√	√	√	√
Heparin treated plasma	√	√	-	-
Citrate treated plasma	-	-	√	√
EDTA treated plasma	-	-	√	√
Serum	-	-	√	√
GC-rich target	-	√	-	√
Non GC-rich target	√	-	√	-

GC = PEC for high GC-content targets

Generally, if you are working with PCR samples containing purified DNA, we recommend **PEC-1** or, for high GC-content targets, **PEC-1-GC**. Otherwise, for direct amplification of samples containing whole blood, plasma, or serum, we recommend either **PEC-1 / PEC-1-GC** or **PEC-2 / PEC-2-GC**, depending on the anticoagulant used and GC content of the target. Please see the table above for details to choose the proper enhancer for you.

REFERENCES:
Zhian Zhang, Milko B. Kermekchiev and Wayne M. Barnes. Direct PCR Amplification of DNA from Crude Samples Using a PCR Enhancer Cocktail and Novel Mutants of Taq. J Molecular Diagnostics (accepted July, 2009)

Please visit us on the web at www.klentaq.com for troubleshooting and detailed protocols.