PCR Enhancer Cocktail Combo

Cat #: E640

Amount: 1.25 ml each PEC-1, PEC-1-GC, PEC-2, PEC-2-GC, and PEC-P (100 x 25 µl reactions each) and 5M Betaine (200 x 25 µl reactions)
Shipping conditions: Ambient temperature
Storage conditions: -20°C
Expiration: On tube label. If crystallization of PECs occurs, the solutions can be restored by soaking at 50-70°C.

PRODUCT DESCRIPTION: The PCR Enhancer Cocktail Combo contains all five of our PCR Enhancer Cocktails (PECs) as well as 5M Betaine.

Our family of PEC products are non-betaine based PCR enhancers specifically designed for use with inhibitory templates such as plasma, serum, whole blood, inhibitory food matrices, plant tissue, polyphenolic samples, humic acid, bile, and feces. In many cases amplification may be performed **without DNA purification**. They are highly recommended for use with our inhibition-resistant Taq and Klentaq mutants. When used with a PEC, our enzymes can tolerate at least 25% plasma, serum, or whole blood, and as high as 80% GC content templates. PECs are efficient in conventional or real-time PCR, both in SYBR Green and TaqMan assays. PECs are compatible with most commercially available DNA polymerases, but they are not recommended for use with AmpliTaq Gold.

Betaine is a general PCR enhancer when included in the reaction at approximately 1.3M. It works by equalizing G-C and A-T binding. It lowers the melting temperature of template and primers by 2-3°C. Betaine also facilitates inhibition resistance of our mutant enzymes. For GC rich targets, Betaine may be used as high as 2M.

APPLICATION: Include PECs as one half the volume of your PCR reaction (add 25µl to each 50µl PCR reaction or 12.5µl to each 25µl PCR reaction.) Include Betaine at 1.3M (13µl to each 50µl PCR reaction or 6.5 µl to each 25 µl PCR reaction). Melting and annealing temperatures may be decreased by 1-2°C. For GC rich targets, Betaine may be used at 2 M (20 µl for 50 µl reactions, 10 µl for 25 µl reactions).

Please visit us on the web at www.klentaq.com for help selecting the appropriate PCR Enhancer Cocktail for your application. We also offer troubleshooting and provide detailed protocols.

REFERENCES:

Zhang, Z., et al. (2010) Direct PCR Amplification of DNA from Crude Samples Using a PCR Enhancer Cocktail and Novel Mutants of Taq. J Mol Diagn, 12 (2): 151-161.