9051 Mira Mesa Blvd, #910094
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MutS

Thermus Aquaticus DNA Mismatch Repair Protein MutS Recombinant RCP1418

Product Overview

Name	MutS
Description	
Thermus Aquaticus DNA Mismatch Repair Protein MutS Recombinant	
Accession (Primary)	Q56215
Synonyms	
MutS, Thermus Aquaticus DNA Mismatch Repair Protein, DNA mismatch repair protein MutS.	
Introduction	
The MutS DNA Mismatch Protein Identifies heteroduplex DNAs comprising mis-paired or unpaired bases. The MutS DNA Mismatch Protein binds in vitro to heteroduplex DNAs comprising mis-paired or unpaired bases over a varied temperature range from 4-70 °C and obtains a thermostable ATPase activity. The MutS DNA Mismatch Protein is active at temperature between 0 to 75°C. Since The MutS DNA Mismatch Protein competently binds to 1-4 bases deletion (or insertion) and mismatch base pairs of GT, CT and AG, it is suitable for sensing these mutations. Mutations can be distinguished in polyacrylamide gels or on a solid phase such as Ni agarose or beads or magnetic Ni-NTA particles.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile filtered colorless solution.	
Formulation	
The MutS protein is supplied in 20mM Tris-HCl, pH-8, 250mM NaCl, 0.1mM EDTA, 1mM DTT and 50% Glycerol.	
Stability	
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.	
Purity	
Greater than 95.0% as determined by SDS-PAGE.	
Amino acid sequence	
MEGMLKGEGPGPLPPLLQQYVELRDQYPDYLLLFQVGDFYECFGEDAERLARALG	
LVLTHKTSKDFTTPMAGIPLRAFEAYAERLLKMGFRLAVADQVEPAEEAEGLVRREV	

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TQLLTPGTLLQESLLPREANYLAAIATGDGWGLAFLDVSTGEFKGTVLKSKSALYDELF

RHRPAEVLLAPELLENGAFLDEFRKRFPVMLSEAPFEPEGEGPLALRRARGALLAYAQ

RTQGGALSLQPFRFYDPGAFMRLPEATLRALEVFEPLRGQDTLFSVLDETRTAPGRRL

LQSWLRHPLLDRGPLEARLDRVEGFVREGALREGVRRLLYRLADLERLATRLELGRASP

KDLGALRRSLQILPELRALLGEEVGLPDLSPLKEELEAALVEDPPLKVSEGGLIREGYDPD

LDALRAAHREGVAYFLELEERERERTGIPTLKVGYNAVFGYYLEVTRPYYERVPKEYRPV

QTLKDRQRYTLPEMKEKEREVYRLEALIRRREEEVFLEVRERAKRQAEALREAARILAEL

DVYAALAEVAVRYGYVRPRFGDRLQIRAGRHPVVERRTEFVPNDLEMAHELVLITGPN

MAGKSTFLRQTALIALLAQVGSFVPAEEAHLPLFDGIYTRIGASDDLAGGKSTFMVEM

EEVALILKEATENSLVLLDEVGRGTSSLDGVAIATAVAEALHERRAYTLFATHYFELTAL

GLPRLKNLHVAAREEAGGLVFYHQVLPGPASKSYGVEVAAMAGLPKEVVARARALLQ

Applications

Recommended Applications: 1. Remove mismatch DNA (error correction) from gene synthesis reaction 2. Mutation detection and removal 3. Rapid isothermal SNP detection

Preparation protocol

1. After first round PCR, purify PCR fragments using Qiagen QIAquick PCR purification kit with elution in dH 2 O. 2. Dilute PCR product to 250 ng/ µl in 10 mM Tris–HCl, pH 7.8, 50 mM NaCl and heat to 95 °C for 5 min followed by cooling at 0.1°C /s to 25 °C. 3. Add binding buffer (20 mM Tris –HCl, pH 7.8, 10 mM NaCl, 5 mM MgCl 2 , 1 mM DTT and 5% glycerol) to annealed PCR product, adjust DNA concentration to 11.5 ng/ µl, add MutS dimers to 950 nM. 4. Incubate the mixture at room temperature for 10 min, then add an equal volume of Ni-NTA beads pre-equilibrated with 1×binding buffer, and incubate for 30 min at room temperature. 5. Gently spin down beads and save supernatant for subsequent processing (second round PCR, cloning etc).

Reaction Conditions

100mM KCl, 50mM Tris-HCl, pH-8.5, 20mM MgCl 2 , 0.1mM EDTA, 1mM DTT and 2% Glycerol, 65 °C.

Precautions

MutS is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (Q56215)