

Supplementary material: Rad50, SMC and MutS sequence proteins highlight Walker A, Signature and Walker B domains in this order.

>AAEL005802-PA.NBD1

MDSAFLOFIEVDNFKSYRGKVTIGPLKKFSAVI **GPNGSGKS**NFMDAISFVMGEKTTSLRVRKLNELIHGA
SIGRPVSNRASVMAKFIITDQEGNQTSKSFQRSVIGSSSEYRINGSVVTTNAYLQELEHIGINVAKNFL
VFQGAVESIAMKNAKERTALFEEISGSGLLKEEYNKLKHEMQMAEETQFTYQKKKGIAAERKEAKLEKQ
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RDLAKNEQEIREVESEMSKKHPMFIKAKEKVAHTKKKLD SAMKTLEQARKADEAHQADIRKLEDELKIE
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AQIEENYKKEYSERNEAAKRQEKLIDHIKASKQALEEQNRLKQELSQDVGSSKERILELQAE LDDVREQL
GDAKIDKHEDARRKKKQEVVELFKQEVPGVYDRMINMCQPTHKRYNVAVTKVLGKYMEAIIVDTEKTARR
CIQILKEKMLDVETFLPLDYLQKKPLKERLRNIEDPRNVKLIYDVLKFSPPQIEPAVL FATNNALVCETP
DDAMKVAYEIDRSRYDALALDGTIFYQKSGIISGGSHDLARKAKRWDEKHMALKAQKEKITEELKEVMKK
TRRQGELTTVESQIRGLENRLKYSQNDLDASKKNIKEYDKKLAALQLELDQIGPKISEIERRMQORDLKI
QEIKENMNNVEDDVYAEFCARIGVANIRQFEERELVLQQERAKKRAEFEQQIDRINNNEFERSKDTSKN
VTRWERAVQDDEDSLETFKQAEARQRQIEKDKERIEKMKVDKAAKKA AVDAMEEEMAKARRDVQQAKE
LAAVHQQIAGIESKIE TMKNKRHNLLMQCKMDAIEIPMKRGKMNDIVEQTGGNESETTPLSTIYERAKI
EIDYSSLPKNLTNPSEPDQVKKVGDGLARELQSKLDTLEKIQT PNLKAMQKLD RVT EKIQT TNEEF EAAR
KKAKKAAAFEKIKNERCTLF TNCCNHISDAIDGIYKQLARNEAAQAYLGP DNPEEPYLDGINYN CVAPG
KRFQPM SN **LSGGEKT**IAALALLFAIHSFQPA **FFVLDE**IDAALDNTNIGKVASYIREKCTNLQTVVISLK
EEFYSHADILIGICPEPAECLVSQTLIYDLEQFTPHS

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MKVAYEIDRSRYDALALDGTIFYQKSGIISGGSHDLARKAKRWDEKHMALKAQKEKITEELKEVMKKTRR
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VHQQIAGIESKIE TMKNKRHNLLMQCKMDAIEIPMKRGKMNDIVEQTGGNESETTPLSTIYERAKIEID
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LLQKGQLQSR TMIPLNKITSRMIDNNTVRVADNLV GKGRAVTALSCIN YERQLEPAMKFVFGHSFLADD
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QAQLKPPDGVDFMKGLEVKVGFNGMWKESLTE **LSGGQRS**LVALSLI LAMLKYKPAP **LYILDE**EVDAALDLS
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ARAMSAYVEI I FDNSDNRPIDKEE I FLRRVIGAKKDQYFLNKKVPRSEVVNLLSAGFSNSNPYYIVK
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KEYQKWDKARTLEY I I HETELKENKKHLDELEHQKSSGDKQKMFQEI IQTAQDKI KNAQKALKDAKKE
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SGHLILRTQKDT EGN DMEKEVETSDEFTGIGIRVSTG VDAEMREMNO**LSGGQKS**LVALALIFAIQKCDP
AP**FYLFDE** IDQALDAQHRKAVADMIHELSDKAQFITTTFRPELLEN AHK FYGVRFRNKVSHVDCVTREIA
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NTNSCSVGVHFKQI IDKEDGSFESVPNSEFVVARTAFRDNSSYYTVDNKR VHFKEVSKLLKHGIDLHN
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SELKICQHNETTEKRKLET LKYSFEDSNKNFQEQARLQELEKNLPQLRTDLQTAKAKLQENVTEEKELR
SQLRTVQGLQESMQAVQSTRSQGKVL DALKQKNEGRIPGILGRLGNLGGIDSKFDVAISTCCGHLDFI
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EHLQVRAQEIQSQINFLQEQQGELEQQIQRMGSQ LKNQENEVKRLKMDVTS LAEQPLRKDQVERQQARV
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TTNISKLTVEVKTSE RNVKKTEDKIKNMEEEVISA EQAIRSGCEEREAL EKEASDLKQEI DELKVEIEKA
HDGSSSIKKEI VAIQKKEAEGMKRLEFEQILQSIEKKLSEVKD TI PHWKNKLPKLKHEIPGEPAPEPL
KEYTEEELNSYKLSDLQYQFSIQEEKLNASKPNLSVIEEF LRKQEA YLQ RVAILEEITAKRNEMRQYDD
VRKKRFTEFMQGFH IITK K LKEMYQMITLGGDAE LELVDSMDPFNEGIVFSVRPPKKS WKMISN**LSGGEK**
FLSSLALVFALHYKPSF**LYVME** EIDAALDFKNVSI VAHYIKERTKNAQFV IISLRSNM FELSDYLVGIY
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GETQASIEIHLGNDSFDAYERDVYGDRI I I IRTINASGATS YK LKSEQGRVISQSRSDLLKMILF LNIQV
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IKNINSANDDIVDVKAI LENKILKRDTSLRYTDSLK KIKLLTNSRSARYAYLHKLKSHMSLRVKKHFNM
VMQLRGFVGEIVMDTKNGT LSLSVVPRDKNISNAVCNTKS**LSGGERS**YSTVAFLIALWSCVDTP**FYFLDE**
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IEKLEKDYENQKSNVVEGMRRQLAEKKIKHEELQAKLDRVEEQISALDAVAKATELHLKEQQFNAKES
EFKRLRNKHTENLKRFLFPSKTI DTNYKRNVTLYDDLQRQIKQLNESMRKSQATVTEMETTRRSQKRELD
RIERELTENKEKIYTVQCQGNPFEEVLAKLKDKISKNNLEHGELRSAEVLYKKYISRIEDDKCCPVCHKGM
DGADVQDISSELSDEIRRLPEKIEALERMLKADQKKYDQLLALQPYSERIAKQTEEIPKLKEQLEETERK
LVQASSDLEECQMSILEPNSSVQLINSILGDMSILDESVRDIDRMKKGIEENLKEIEVAVKTPEGTTASLDD
IKLREALRGEELRVERISIDAMQNKIDEETERLNNLHQRYNQMKEKKIQLQESVQSLDQKKAKELELGEK
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NLAAEQIKIKRKLQESNEEMKKIAAIDEKTYQIDS LKKEVMNQDMIERYLDNRDLMLKDKDETTSLKQG
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IAAIQRSAETLKKIVTEIEKLEKDYENQKSNVVEGMRRQLAEKKIKREELQAKLDRVEEQISALDAVA
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