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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Motif | Mutations | Organism | Equivalent to human  residue | Ref. | | Walker A | K40A  K40R  K40E | *S. cerevisiae* | K42A  K42R  K42E | [1] | | Walker A  (WA)  &  D-loop | R37A  N38A  D512N  D512A  E514Q  E515A | T4  bacteriophage | P37A  N38A  D1238N  D1238A  E1240Q  N1241A | [2] | | ATP binding domain  &  Walker A | K6E  S14P  R20M  E21K  G39D (WA)  K40E (WA)  V63E  Q79K  K81I  N97D  Q99K  E915V  A930P | *S. cerevisiae* | K6E  S14P  K22M  Q23K  G41D  K42E  T65E  Q81K  R83I  S99D  V101K  K921V  S936P | [3] | | ATP binding domain | K6E =K6ESc  K22M=R20MSc  R83I=K81Sc | *M. musculus* | K6E  K22M  R83I | [4] | | Walker A,  Walker B  & Signature motif | K39R (WA)  K39M (WA)  D303N (WB)  S270R (SM) | *D. radiodurans* | K42R  K42M  D1231N  S1202R | [5] | | ATPase binding domain  &  Walker B (WB)  &  Signature motif (SM) | K115E  K175E  K182E  R94E  K95E  R765E  E798Q (WB)  S768R (SM)  K99E  K108E  K109E  K110E  R125E  K103E  K104E  R131E  R1201E  N190D  S1205E+E1235Q | *T. maritima*  *S. cerevisiae* | K132E  T191E  C221E  K105E  S106E  G1199E  E1232Q  S1202R  E110K  E126K  K127E  K122E  K126E  K105E  S106E  K132E  R1198E  T191D  S1202R  +E1232Q | [6] | | Zinc hook | S679R  P682E  V683R | *M. musclulus* | S679R  P682E  V683R | [7] | | Zinc hook | C680G  C681G  C684G  R686A  C681G+C684G  C680G+C681G+  C684G | *H. sapiens* | C680G  C681G  C684G  R686A | [8] | | Zinc hook | C684N  C685A  P686A  V6871  C688R  Q689S | *S. cerevisiae* | C680N  C681A  P682A  V683I  C684R  Q685S | [9] | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Motif | Mutations | Organism | Equivalent to human  residue | Ref. | | Zinc hook &  coiled coil domain (ATPase domain) | C288S  C291S  C312S  K211P  K351P  S183C | T4  bacteriophage | C681S  C684S  C990S  K256P  N1028P  M208C | [10] | | Zinc hook  &  coiled coil domain (ATPase domain) | S685R  Y688E  Y688R  L689R  I680V  K700Q  L703F  V285A  N607Y  N873I  S193F | *S cerevisiae* | S679R  P682E  P682R  V683R  L673V  L694Q  V697F  M293A  S603Y  Q886I  Q194F | [11] | | Zink hook | S635G | *H. sapiens* | S635G | [12] | | Signature motif &  ATPase domain | R797G  R805E  R805W  L802W  L806F  K155A | *P. furiosus* | K1206G  R1214E  R1214W  L1211W  L1215F  Q174A | [13] | | Signature motif | K1187A  K1187E  R1195A  R1195E | *S.pombe* | K1206A  K1206E  R1214A  R1214E | [14] | | Signature motif & Q loop | S793R  Q140H | *P. furiosus* | S1202R  Q159H | [15] | | Signature motif | S471A  S471R  S471M  E472G  E474Q  K475M | T4  bacteriophage | S1202A  S1202R  S1202M  A1203G  Q1205E  K1206M | [16] | | Signature motif | S1205R  S793R  S1202R | *S. cerevisiae*  *P. furiosus*  *H. sapiens* | S1202R | [17] | | ATPase domain | R1093X | *H. sapiens* | R1093X | [18] | |

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