```
A3C-A3C      MNPQIRNPMKAMYPGTFYFQFKNLWEANDRNETWLCFTVEGIKRRSVVSWKTGVFRNQVD   60
A3F          MKPHFRNTVERMYRDTFSYNFYNRPILSRRNTVWLCYEVKTKG-PSRPRLDARIFRGQVY   59
             *:*::** :: ** .** ::* *    . ** .***: *:     *    .: :**.**

A3C-A3C      SETHCHAERCFLSWFCDDILSPNTKYQVTWYTSWSPCPDCAGEVAEFLARHSNVNLTIFT   120
A3F          SQPEHHAEMCFLSWFCGNQLPAYKCFQITWFVSWTPCPDCVAKLAEFLSEHPNVTLTISA   119
             *: . *** *******.: *   . :*:**:.**:*****..::****:.* **.*** :

A3C-A3C      ARLYYFQYPCYQEGLRSLSQEGVAVEIMDYEDFKYCWENFVYNDNEPFKPWKGLKTNFRL   180
A3F          ARLYYYWERDYRRALCRLSQAGARVKIMDDEEFAYCWENFVYSEGQPFMPWYKFDDNYAF   179
             *****:    *:..*  *** *. *:*** *:* ********.:.:** **  :. *: :

A3C-A3C      LKRRLRESLRNPMKAMYPGTFYFQFKNLWEANDRNETWLCFTVEGIKRRSVVSWKTGVFR   240
A3F          LHRTLKEILRNPMEAMYPHIFYFHFKNLRKAYGRNESWLCFTMEVVKHHSPISWKRGVFR   239
             *:* *:* *****:****  ***:**** :* .***:*****:* :*::* :*** ****

A3C-A3C      NQVDSETHCHAERCFLSWFCDDILSPNTKYQVTWYTSWSPCPDCAGEVAEFLARHSNVNL   300
A3F          NQVDPETHCHAERCFLSWFCDDILSPNTNYEVTWYTSWSPCPECAGEVAEFLARHSNVNL   299
             **** **********************:*:**********:*****************

A3C-A3C      TIFTARLYYFQYPCYQEGLRSLSQEGVAVEIMDYEDFKYCWENFVYNDNEPFKPWKGLKT   360
A3F          TIFTARLYYFWDTDYQEGLRSLSQEGASVEIMGYKDFKYCWENCVYNDDEPFKPWKGLKY   359
             **********    ************.:****.*:******** ****:**********

A3C-A3C      NFRLLKRRLRESLQLE  376
A3F          NFLFLDSKLQEILE--  373
             ** :*. :*:* *:
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End of A3C single domain

Linker sequence

S188I S372I A3C polymorphism sites

Conserved A3 cytidine deaminase motif

E68A E254A active site mutation