```
                          10        20        30        40        50        60
                           |         |         |         |         |         |
Human_O60260      ----------------------------------------MIVFVRFNSSHGFPVEVDSDTS
Drosophila_Q7KTX7 MDYKDDDDKMSFIFKFIATFVRKMLELLQFGGKTLTHTLSIYVKTNTGKTLTVNLEPQWD
                                                          : ::*: *:.: :.*:::.: .

                          70        80        90       100       110       120
                           |         |         |         |         |         |
Human_O60260      IFQLKEVVAKRQGVPADQLRVIFAGKELRNDWTVQNCDLDQQSIVH-IVQRPWRKGQEMN
Drosophila_Q7KTX7 IKNVKELVAPQLGLQPDDLKIIFAGKELSDATTIEQCDLGQQSVLHAIRLRPPVQRQKIQ
                  * ::**:** : *: .*:*::******* :  *:::***.***::* *  **  : *:::

                         130       140       150       160       170       180
                           |         |         |         |         |         |
Human_O60260      ATGGDDPRNAAGGCEREPQSLTRVDLSSSVLPGDSVGLAVILHTDSRKDSPPAGSPAGRS
Drosophila_Q7KTX7 SATLE---------EEEP-SLS----DEASKPLNETLLDLQLESEERLNITDEERVRAK-
                  ::  :         *.** **:    ..:  * :.. * : *.::.* : .      .:

                         190       200       210       220       230       240
                           |         |         |         |         |         |
Human_O60260      IYNSFYVYCKGPCQRVQPGKLRVQCSTCRQATLTLTQGPSCWDDVLIPNRMSGECQSPHC
Drosophila_Q7KTX7 --AHFFVHCS-QCDKLCNGKLRVRCALCKGGAFTVHRDPECWDDVLKSRRIPGHCESLEV
                      *:*:*.  *:::  *****:*: *: .::*: :.*.****** ..*:.*.*:* .

                         250       260       270       280       290       300
                           |         |         |         |         |         |
Human_O60260      PGTS--------AEFFFKCGAHPTS-DKETSVALHLIATNSRNITCITCTDVRSPVLVFQ
Drosophila_Q7KTX7 ACVDNAAGDPPFAEFFFKCAEHVSGGEKDFAAPLNLIKNNIKNVPCLACTDVSDTVLVFP
                  . ..        *******. * :. :*: :..*:** .* :*:.*::**** ..****

                         310       320       330       340       350       360
                           |         |         |         |         |         |
Human_O60260      CNSRHVICLDCFHLYCVTRLNDRQFVHDPQLGYSLPCVAGCPNSLIKELHHFRILGEEQY
Drosophila_Q7KTX7 CASQHVTCIDCFRHYCRSRLGERQFMPHPDFGYTLPCPAGCEHSFIEEIHHFKLLTREEY
                  * *:** *:***: ** :**.:***: .*::**:*** *** :*:*:*:***::* .*:*

                         370       380       390       400       410       420
                           |         |         |         |         |         |
Human_O60260      NRYQQYGAEECVLQMGGVLCPRPGCGAGLLPEPDQRKVTCEGGNGLGCGFAFCRECKEAY
Drosophila_Q7KTX7 DRYQRFATEEYVLQAGGVLCPQPGCGMGLLVEPDCRKVTCQNG----CGYVFCRNCLQGY
                  :***::.:** *** ******:**** *** *** *****:.*    **:.***:* :.*

                         430       440       450       460       470       480
                           |         |         |         |         |         |
Human_O60260      HEGECS-AVFEASGTTTQAYRVDERAAEQARWEAASKETIKKTTKPCPRCHVPVEKNGGC
Drosophila_Q7KTX7 HIGECLPEGTGASATNSCEYTVDPNRAAEARWDEASNVTIKVSTKPCPKCRTPTERDGGC
                  * ***      **.*.:  * ** . * :***: **: *** :*****:*:.*.*::***

                         490       500       510
                           |         |         |
Human_O60260      MHMKCPQPQCRLEWCWNCGCEWNRVCMGDHWFDV
Drosophila_Q7KTX7 MHMVCTRAGCGFEWCWVCQTEWTRDCMGAHWFG-
                  *** *.:. * :**** *  **.* *** ***.
```

**FLAG TAG: DYKDDDDK**
**Serine residue phosphorylated by PINK1: Ser65 (Human) and Ser94 (*Drosophila*)**
**Catalytic site cysteine: Cys431 (Human) and Cys449 (*Drosophila*)**
**UBL domain 1-76 (Human) and 30-106 (*Drosophila*)**
**RING0 domain 144-216 (Human) and 157-236(*Drosophila*)**
**RING1 domain 228-327 (Human) and 249-348(*Drosophila*)**
**IBR domain 328-377 (Human) and 349-394(*Drosophila*)**
**RING2 domain 415-465 (Human) and 433-482(*Drosophila*)**

Supplementary Figure 8