

**Additional File 7: Alignment of DED-DED domains of initiator caspases. Green underscored:**

DED domains.

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Dr10_CARD      1 MCQRALLRQESLSADHTQDLFLCSHCSRDLNVTSSRQFTLLQNQDL--SLEDPSLLELLSITKTRLRSLQSDACMQTSGTADQFLQQQR-----
Hs10_CARD      1 VSRKRLIITDSNLGVQDENLKFICIGLPNKKLEKSSSDFEHLAEDDL--SEEDPFLAEFLLYIRQKKLQ--NCTKKEBERLIP---TRQR-----
X110_CARD      1 MDNSMLLRDDEGLREDDEALKFLCRVFRKKNLSVQSHELFQQMTEDL--NEDNYFLAEFLLYINHHSL--DGTNKVQKALP---HHWK-----
Mm8_CARDm     1 MDQSCYAAAEELGSEDAALKFLCLDYPHKKQETIEDQKFLRREKGM--EEGNLSAEFLLFHSHWDLVNFDCNREEVREKDF--DNVQ-----
Hs8_CARD       1 MDLSRNVYDTEGQDSEDAALKFLSLVYPRKQPEPKDLMFORLQEKRM--EESNLSAEFLFRNRDLITYNTRKKEEREQTP--GRAQ-----
X18_CARD       1 ADMNKLFESELDKTLAHLFLCEKRPAQEKENIKDKTFLCCKKDL--CYNDLSAEFLLYRGRNDLGGGVRTEEKRIE---VSPQ-----
Dr8_CARD       1 -----
Hdd8_CARD      1 HSHAMLLKDSLLHQADLQALKFLIKDNPKNKLFRMSTHEHFTAEETSKL--DTSNRWLVEMFNKGRLDLID---YVDEEETEDKSTYLPTGK---
Ajs8_CARD      1 -----
Mg8-like_CARD  1 -----
Tt8_CARD       1 LDTRKLLIDHENLVSRLAALKFLCSHVPVAVSERVTSLELDLERTRY--VAADNVLAEFLLYYGRKDLR--KNVTDNEVRTSTDK--QHSH-----
Cg8B_CARD      1 YDGEELGVDSDGLDTSMDNLKFLRGVPSDKQRAERLDFTLQNAVDIDNADLELEFLYRHRKDLR--KARDTNLVEQRKRLQADLQKKISYMNSA
Mco8A_CARD     1 TDLTKGLITDGELESDDNKSFLCQHFVAKTKEKIEDIQFNEERLKGDTSRGEVDVLESCLRCHRRDLR--KGFNQIQKNNRES--GRSN-----
Mco8A_CARD     1 CLTKDILVDICSLDSDDDNMLKFLMKVAGLHKMPATILDFSAENNKD--ALLNGRFAEFLYGRDDLFR--GLDPTKEKEGQ--TIYS-----
Mco8A_CARD     1 CLTKDILVDICSLDSDDDNMLKFLMKVAGLHKMPATILDFSAENNKD--ALLNGRFAEFLYGRDDLFR--GLNPTQEKEGQ--TNYS-----
Mg8A_CARD      1 CLTKDILVDICSLDSDDDNMLKFLMKVAGLHKMPATILDFSAENNKD--AFHNGRFAEFLYGRDDLFR--GLNPTQEKEGQ--HNSY-----
Ch8A_CARD      1 GDFRAILLDDDAHLDSDKDELLKFLCKDVVFSVLDKCRCLDFANRQKGGK--KEQDSKVLCECFHYQRKDLR--KSGNPQDENRRAD--GPNY-----
Cg8A_CARD      1 GDKAILLDLDAHLDSDKDELLKFLCKDVVFSVLDKCRCLDFANRQKGGK--KEENSKVLCECFHYQRKDLR--KSGDPQDENRRAN--GPNY-----
Bf8_CARD       1 FNRKALKDDDDLLTSGDAALKFLCRDFPAAKLENAGSLDFRQENKGL--GQNNLMTELLYRQRADLFR--KAWROEVSGER--GRAL-----
Bl8_CARD       1 FNRRAALKDDDDLLTSGDAALKFLCRDFPAAKLENAGSLDFRQENKGL--GQNNLMTELLYRQRADLFR--KAWHPDQVSGEER--GRAL-----
Cg8-likeC_CARD 1 -----
Mt8_CARD       1 SDRQIINTMKNRGENKLSLFLCQDLI PQSI--DFKTCLOFVQHREQSNK--SYINISLVEFLYRNRDLR--KFNISKIHEDNYLSM--GHTH-----
Hl8_CARD       1 -----
Cg8-likeB_CARD 1 -----
Cg8-likeA_CARD 1 -----
    
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Dr10_CARD      100 --SRFRQLVELSESCDQKKNKFLMKT--SRKLEQNLFLCFLFENEKEDLGENNDVLRQRFAD-----YPAIGRKLNQ
Hs10_CARD      95 --SLFRQLVELSESCDSNKKDFLKKDS--PATEK----SISFLAFLEKQCKDEBDMTCHEDCET-----VPKLRNKEK
X110_CARD      95 --SPFRQLVELSESNVIGTEKRLDFLIP--H--HKENKFLDLCOLEKENATEDNKLEEFKPK-----SPDLKLEK
Mm8_CARDm     98 --SPFRVMLKSEVSELSRSPKFLDNE--PACDLDLLEFLFVEKERTMAENNETKKSQDQ-----NKSLGKED
Hs8_CARD       98 --SAPFRVMLQTEVEVRSRSPKFLQEE--SCDLDLDMNLLDFEEMKRVILGEGKDDIKRCAQ-----NKSLKTIIND
X18_CARD       96 --SPFRLLDTHQGLKKEVEDKMLD--STATENA-SLEFLFLEKVGKHPDDQKHKHDET-----GCKNLRNED
Dr8_CARD       1 --SAPFRLLKTEEMTEVNFRAAKFLD--PFAKGRSTFLDALAEKQQRGPDNDLRYRKEC----DKQLAVSERFRN
Hdd8_CARD      96 --SDFRMLDTPAQDLGHTNKLSFLDK--PFAIRGKVSGLDVTLEESKISPASDRQRONVAL-----TRDILRKIDQ
Ajs8_CARD      1 --NNEFTLADADLIDDAKALAEFLV--PGERGKINGRTLDVKKNEVNSDDKDLKLLKRR-----RYNVAATKEG
Mg8-like_CARD  1 --HAYLTTLSNYDSSDKQYEQLNRRKSVLTPKDNNAKTIMHLESMERKSFAPGKYADLKKISEFD----ERIANVTEPEE
Tt8_CARD       98 --KQFRLLHTICQELTKRFLSKKQCSAK--TRAKDTKIPQHLLELELQRVTHDNFTYLSLNRD-----HRQDILKMSQ
Cg8B_CARD      110 KFSFRVLLSFTGEIDDEFKSMFTLTSV--VPGQSKKSIFFDLFLEKDESHTKDVLKLVLRV-----DRADLTPKONK
Mco8A_CARD     98 --SFRVLLSFTAEEMETADIKTALFTLSSV--PSSSHKIKICDFIQLEISGDSVNVLEVLYKLRM-----DRGDLTKVRA
Mco8A_CARD     96 --FRFRVLLKIEEDIASDELASFSLRVFKTQEKETKSAFDLFLLEKRGIEVAHTNPKKAVKSL-----ENRGLDLVNE
Mco8A_CARD     96 --FRFRVLLKIEEDIASDELASFSLRVFKTQEKESKSAFDLFLLEKRGIEVAHTNPKKAVKSL-----ENRGLDLVDE
Mg8A_CARD      96 --FRFRVLLKIEEDIASDELASFSLRVFKTQEKATKSAFDLFLLEKRGIEEDDTPKAVKSL-----ENRGLDLVDE
Ch8A_CARD      97 --LTERVLLSFTAEFCGKDEKKTYSRTTLRPRKMKKRSCLDENVLEKEEKTVIDKTEQIHTTT-----GDELEEFYQ
Cg8A_CARD      97 --LTERVLLSFTAEFCGKDEKKTYSRTTLRPRKMKKRSCLDENVLEKEEKTVIDNTLEQIHTTT-----GDELEESYQ
Bf8_CARD       96 --NFRVMLLQVSEELSRFDKFAAY--SRNKLETDNFLSALALEQGMHATDNQVHEHMQTO-----ERPDKNIQN
Bl8_CARD       96 --NFRVMLLRVSEELNRFDKFAAY--SRNKLEMDNFLSVALBQGLHSTSDNQVHEHMQTO-----ERPDKMERN
Cg8-likeC_CARD 1 --SFRKTLSSGEGIDDKKRALITVELR--GRTMETKDVMDCLDIKRLDSELSFSLKTYTDE-----RLLEITDDFAK
Mt8_CARD       95 --FRFRVLLSFTAEEDLQTEFDCKEQFSDH--KQRQLETETDVVSLKLEBELGVDCDDFRKIEEEL-----VNPRPFHKF--
Hl8_CARD       1 -----
Cg8-likeB_CARD 1 --SNCRLLLEINERKLSDFQSTFAKD--INRKKKEKENRLEFEDLEKAVKCGTEETDLEFLKQAFILMGKNNLVSADEKGE
Cg8-likeA_CARD 1 --SNCRLLLEINERKLSDFQSTFAKD--INRKKKEKENRLEFEDLEKAVKCGTEETDLEFLKQAFILMGKNNLVSADEKGE
    
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