

Figure S1A

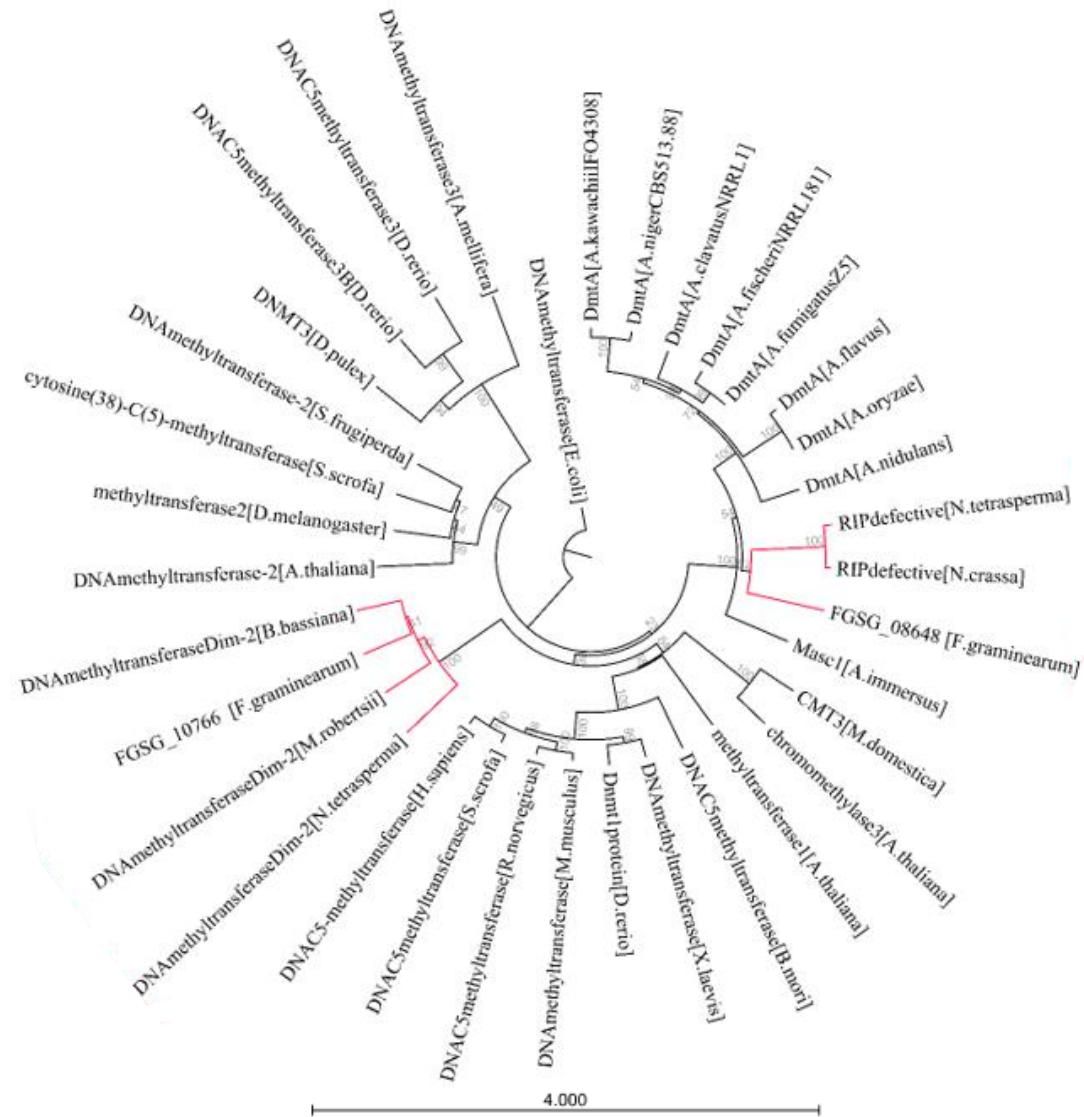


Figure S1B

>EZH35037.1 DNA methyltransferase, partial [Escherichia coli O26:H11 str. 2010C-3871]
ECYRDNFSHPKLDLSNVDDVRELKDIDFDMIIGPPCQDFSHAGLRIEGARANLTRSFSEIIKRIKP
KWFVMENVDRALRSGAYLEARGIFKESGYGLTEIVLDASKCGVPQKRKRLFVIGKLDVRDGFILNEVMCG
ISKDSMTVRNYLGDLSGIEYYYYRHPNRYNRRRAIFSIDEPAPTVRGVNRPIPDGYLGHA

>XP_001823049.2 C-5 cytosine methyltransferase DmtA [Aspergillus oryzae RIB40]
MSSIQAREPSILEIADPRPTTLEVYDSDTDSSVTLDHSDGPDYADDVVVISDNRPDPPTPFLSTNAAA
NLRELVDLTLPFTQAFDEDDYCTDEEFELLQSWQLHTPSPRVTTPVDETRATTVLPVEEVCIDGILYKP
GQSLELYDGSYLRICTVLKDSMDAVSFSGRLLKTRNHAGTYVPKERNELVWIANATEIIPFQMAKKFVS
MNFTNICAIRGDPQKLVPNHLWCRLKETLEDGEVSIIEYVSFVEADEGHKIEPAILRQLWRGKSRAFGE
DRPRESSPVIVLDNPDVIDLTCSSESVDEQKRRRQYTFGDGFCGAGGVSCGARRAGLYNKWAFDNSEHAT
STYRLNFEHAYCELSDFISFLTSNDEFRLVDVSHSSPPCQTWSSAHTIEGANDDANSACVFSSADLIRRA
KPRVHTMEETNGLLDRHRDTLHRVINDFIEIGYSVRWGILRLLEYGVPQTRKRLLVASGPGETLPPFPR
PTHGPGGLGEYPTISQAIQNIPLGAPDHDVQAALSRGMDKPPYDPHRPAGTITCGGDNHYHPSGRNFTN
RELACLQTFPRNFRFGRQVRKQIGNAVPPLLAEMYREIIRTLLKKTDEDEASR

>XP_001396716.1 C-5 cytosine methyltransferase DmtA [Aspergillus niger CBS 513.88]
MAPFSFSMPHLCESDNDWPSDLMSIDESSDHSSVTVENDPDRVLNIQTGIRSGPLFENNPTPAEFDEIIE
LDSDEEGFNEQDYLTDAAFNRLLQNWHRAPQGQDADAQVQFIDVQPAKRPLTEWCANGIVYTPGQSLEI
FDGNFIRIESISQHVVSKEIFFNGRHLLRATNHKGTYIPKWPNELIWIANEKRNIIGLPLIKRIVNITFTN
TCHVEHDPRKKQRPHGLFCRLKENYRLKPDDPASVEYISFEEADEGYRAHPSSLRKAWRGTTTRPFGASDA
PQAIDLEGVIDLTGQSTDDKSSRQYTFGDGFCGAGGVSCGALKAGLRPTWAFDNRHAINTYRLNFRDA
ECEDSDVFTFLTNDYAFLLKVDVTHGSPPCQTFSPAKTIQCATDDANSACIFSCAEMIRKAKPRVHTMEET
SGLYERHRETFRVVDVDFIEIGYSVRWTILKADYGVPQLRRRLVIIASGPGETLPPFPEATHGLPGSGL
RDYVTINQVISRIPRGAPDHDVEGALQRSAIDRRPFNANRQARTITCGGGENYHPSGRRGFTNREFACLQ
TFPMRFRFGPREVRKQIGNAVPPKLAIAIYRSVKASLQRTDEEETNLQRRGLH

>AAO37378.1 c5 cytosine methyltransferase DmtA [Aspergillus nidulans]
MRQSAYIYLTFFVSSCTVCELLLYTFLTRLSPSCSRDMHNFYRPSVIVDDASDASSVTIDHDPDRLYFLR
EDSDTATREFIDLTEDETTHDGEYITDECFEVLREDWLASACASSPLSPELPEGQLLEEVCADAGIVYKP
GNSVELHDGAFFRICSIQALKGNIIILTGRLLKFKDHPDKYLPQWRNELIWVADETAEIPLWFVRRFVS
VHFSNVCPIGQDCQKNNNPDGLFCRLKRVIQKETTSIEYLTFFEEADAGFRAPSASLRHGWRGETAPFGSK
EEAETPVIVLDDNDNFQDTILKQKAQRKYTFGDGFCGAGGVSCGAEEAGLDIKWAFDLCPHAAATYRLNF
PNVECEGSDIFSMTSNEEFMRVDISHGSPPCQTFSPAHTIPGPNDANSAAIFSCWDLIRKAKPRVHTM

EETSGLFDRHQVFLRVICDFIETGYSVRWALLNCMWYGVQPQSRKRLIIIASGPGESLPRLPRPTHGLPG
SGLRDLTTISQAIRDIPTGSPDHDVVAARGRGVHNRRAPFDGNRQARTITCGGGDNYHPSGLRGFTLREF
ACLQTFPLGFRFLGGRTQVKRQIGNAVPPLAKAVFKEIIRSLQDTERELHENQ

>GAA90610.1 C-5 cytosine methyltransferase DmtA [Aspergillus kawachii IFO 4308]
MAPFSFAIPHLCESDDDWPSDAMSIDGSDRSSVTVENDPDLVLNIQTGYRSGPATERDSSPAEFNEIIE
LDSLTEEGFNEKDYLTDAAFNRLQLDWNKAPRRQDVDEDVQFIDVAPAKRPLKEWCANGIVYTPGQSLEI
FDGRFIRIESISQHVVSKEIFFTGRHLVRATGHKGTIIPKWPNELIWIANDTRNIGLPLIKRIVNVIFTN
ACHVEHDLLKKRRPHALFCRLKENFRDKPDDPASVEYLSFDEADEGYRTYPSSLRKAWRGTTTSFGASDA
PQAIDLEGPVIDLTEQSTENKSSRQYTFGDGFCGAGGVSCGARKAGLRPTWAFDNSRHAVNTYSLNFRDA
ECEESDVFSFLTNNYDFLKVDVTHGSPPCQTFSPAKTVQCATDDANSACVFACAE LIRKAKPRVHTMEET
SGLYERHRET FHRVVLDFIEIGYSVRWTILNCADFGVPQLRRRLVIIASGPGETLPPFPEATHGLPGSGL
RDYVTINQVISRIPRGSSDHDVEGALQRSAIARRPFDANRQARTITCGGGENYHPSGRRGFTNREFACLQ
TFPMRFRFGPREVRKQIGNAVPPKLAEAIYRSVKASLQRTDEEETNPERRGPF

>KMK55222.1 C-5 cytosine methyltransferase DmtA [Aspergillus fumigatus Z5]
MSLRHSWRGETRPFSGADANSQPQSPPIIVLDADPVIDLTGIEKEDVRVQKKHRKYTFGDGFCGAGGVSCG
ASKAGLHIKWAFDKSENAITTYRLNFATAVCEACDIFCFLT NKPEELKVDVSHGSPPCQTFSPAHTINSV
NDDDNSACIFSCADMIKKSRRPRVHTMEETSGLFDRHKETFHRVIQDFIEIGYSVRWRILNCMDYGVQPQSR
RRLIIIASGPGEVLPPFPKPTHGLPGSGLSDYTTINQMIANIPNAPDHDIEGARSRLRNGTRVPFDPN
QQAKTVTCSGGENYHPSGTRGFTNREFACLQTFPLDYRFGAREVRRQIGNAVPPALSKAIYREIIKSLQ
RTDEQELRG

>XP_001257580.1 C-5 cytosine methyltransferase DmtA [Aspergillus fischeri NRRL 181]
MNRPTNDSLHSQELPQPSEPICLDDSDSSVCDTESNTDSSVTIDNDPDRSFLLDDEQFHPGGSRRTP
PFHIGPQTHPEIIDLTSGPELLVTEGDYLTDECFERLLRDWGRPGPAAASLP IQEASEWEKRPIDHACVD
GIVYKAGHSLELHNGLYLRIETVLQDTAAEVFFRGRHLIRTRHHKGTIIPKWSNELVWIVNESTEVP LSF
VKRFINIRFTSCCHVEQDLQKRHRPNDLFCRLKENLDSSQA AVEYLSFEESDEGFAIDSTSLRQSWRGET
RPFSGADANPQPQSPVIVLDADPVIDLTEIEKEDARVQKKHRKYTFGDGFCGAGGVSCGASKAGLHIKWA
FDKSENAITTYRLNFATAVCEACDIFCFLT NKPEDLKVDVSHGSPPCQTFSPAHTINSV NDDDNSACIFS
CADMIKRSRRPRVHTMEETSGLFDRHKETFHRVIQDFIEIGYSVRWRILNCMDYGVQPQSRRLIIIASGPG
EVLPPFPKPTHGLPGSGLSDYTTINQMIANIPDAPDHDIEGARSRLRNGTRVPFDPNQQAKT VTCSGG
ENNYHPSGTRGFTNREFACLQTFPLDYRFGAREVRRQIGNAVPPALSKAIYREIIKSLQRTDEQEFRVGD
SW

>EAW08753.1 C-5 cytosine methyltransferase DmtA [Aspergillus clavatus NRRL 1]
MNQTSCTIEHSDTVVVDDESDTASSVTIDNDPDRSFFLDDETRPGTRLRTPTPFRLLGPHTHQEIIDLTSGP
ELLVTDGDYLTDECLERLLHDWEHPEAAGAAPPARSRLVRTEILRRHPIEHACVDDIVYKPGQSLELE
KGKYLRIITLQDADGNVFFQGRHLISTKNHKESYMPKWSNELVWILNETSEIPLAAATRFVNIHFTNCC
HVDHDFQKKSQPFDLFCRLKENLDPTKASVEYLSFEDSDEKFRIESATLRESWRGETRPFNAKRDISRS
PVITLDGVEPIIDLTSSQNSISDQKMRRQYTFGDGFCGAGGVSSGAQKAGLHIKWAQSEHAIATYRMN
FETALCEQSDIFSFLTNGPDLKVDVSHGSPPCQTFSPAHTINSANDDANSACIFSCADMIQHCKPRVHT
MEETSGLYDRHQETCYRVILDFIEAGYSVRWKKLNCMDYGVPPQPRKRLVIIASGPGEVLPPFPRPTHGLP
GSGLLPYATINSVISNIPPNALDHDIEGARIRGRRNGLRAPFSPNQQAKTITCSGGENNYHPSGTRGFTN
REFASLQTFPLEHLFGTTNVRQIGNAVPPALAWAVYREIINSLHRTDEEEIRSRS

>EED51371.1 C-5 cytosine methyltransferase DmtA [Aspergillus flavus NRRL3357]
MSSIQAREPSILEIADPRPTTLEVYSDTDSSVTLDHSDGPDYADDVVVISDNRPDPPTFLLSANAAA
NLRELVDLTLPTFQAFDEDDYCTDEEFELLLQSWQLHTPSPRVTTVPDETRATTVLPEESLELYDGSYL
RICTVLKDSMDAVSFSGRLLKTRNHAGTYVPKERNELVWIANATEIIPFQMAKKFVSMFTNICAIRGD
PQKLVNPNHLWCRLKETLEDGEVSIIEYVSFVEADEGHKIEPAIRQLWRGKSRAFGEEDRPRESSPVIVL
DNPDPVIDLTCSESVDQKRRRQYTFGDGFCGAGGVSCGARRAGLYNKWAFDNSEHATSTYRLNFEHAYC
ELSDIFSFLTNSDEFRLVDVSHSSPPCQTWSSAHTIEGANDDANSACVFSSADLIRRAKPRVHTMEETNG
LLDRHRDTLHRVINDFIEIGYSVRWGILRLLEYGVPQTRKRLLVIASG

>XP_007820646.1 DNA methyltransferase Dim-2 [Metarhizium robertsii ARSEF 23]
MRSELEAETEHDTPVLKETLDTEAVWACENDSASCQDDLSQWSETLRASSSSPSVFSEESSNLAVEIPD
FQLSSPRSCYEPFHPPAPPKSEEDALECFGLSVQRQSSPSSGHFELQLDEFAYYLDTENYPCEMRCLHHL
YARPGYSNFFFDGILSNNGQKTFMKRIPISAVPVGQYGLQYHSGVGNQIWLQSTYCDQSDIFYKLCLPAR
EYRRFFKAFLWVANLAKHFVDVFLVFMEKGRVTRVIRHFQSAFGDWLLVVHGDAPDLMDWLAQHASSDFRT
SVNANISFLYKEYRGIITDREYGYHDIWAEIWDFTKYPDLSTGTAEQELTVVTDYVYHRFSDLFPGNRLHN
FPLSRRASELRERASLKHGLELACASHGPATSSFVNKTGGDISDITRAIKPGDTISTRDGEVSRSMRRR
ELSNDFAGVDRRFALVQKVCERSDGGRYFEVLWYYRPSDTLCGLMKYPWGNELFLSDHCSCSEENKIQDC
EVLRVHHSVQFKGDSTTTSEFFCRQRYLSKEKKWIALDDSDLICSHLNPRLQDSTSGKYRPGDTFLIHVNV
ASSTSEACELISVNTRGAGTRLCFRKLLQRSNVDSATAVPARNELVYSNESIECDPSGIVGKCHVRFFAH
DENIPAPYNRAGVGGYFYVTHRVSAPGLCVPLRSVPSSLRQGFDPVAVVISELRGLDLFCGGGNFGRGLEE
GGAVRMSWANDCNARAIHTYMANCSHPNLMSPFLGSIDDFQREAFSGNFSKSVPTIGSVDFISGGSPCPG
FSTLTNDRTTDEQRKNQSLVAAFASCVDLRYPKYGLENVPGILPSKANREQDVLGQFMCAIVGIGYQAQ
VFYLDASSCGSAQRRSRVFISFAAPNYKLPKGPQQTTHSHPPDTRYTSLGKLPTRRHVLAERDFLRATPFS
YSVARQVSSGLPKIHNGQTDTCIAFPDHLRLARGLTGKLKARISLIPIPNRPWGMNLRASRGILTPAERGVF
VTINRKTSPNTEPHKLDROSSAYGRCLPNQLIGAITTIQVPNDRKHGRQLHWHENRGLSVMEARRAQGF
LDDEVILGTPAEQYKIVGNSVAREVALALGLSIREAWAESCADDDQTEAAKPLSSSLARGALGGNADHGP

RHTSAAEASIRTRVIPQKRRRRATSRMLVVTGRAKEKCPPECIDAR

>XP_008598218.1 DNA methyltransferase Dim-2 [Beauveria bassiana ARSEF 2860]
MKLTADLDLDDLNLDDLDDLDAISSEQHDTRILATTCLPGVLSGIDYDGSYSSHGSKDDDLLEEDGPT
GSIPISVHIPECMLISPRSCYTPFDPPCPVASERDALRILLPQRYAKNGFLELKLDDFAVYCDTKFRPEE
MRSLSQLGTEPHSTPLFFDGMLSHGTQSLYVRRVRIHALPIGNYGQESRHQTRDNIWIQSEENATSDVFY
KLGSPAPEYKRFFELFVWVADLAKYFVDFLTVMRAIERPVTIHHFRRDFAAWLLALYAKSDKIEAVKTWM
CKHPRQDYRSANVANVDFLHKESVGLGERRAYFHDLWNEVFFFQTYTPYIAHNEDKCTIVTKYIYDCFH
HLPFGKRLKVVDLAHTKRLRLLEVIAQRPMPLPINGTQVTPAGHGKIGPGDTISTARDTVDSGTDWEKEEA
KGDEYSDLWFALVQSVSVNSDGVVRVFEVIWYRVPVDTLCGLMQYPWSDELFLSDHCSCEEGTKIREDEV
SVHEVDFGGTPETTKEFFCRQSYLSDDKIWVTLTQSHLTCRHNNDAIPDSAEYCLGDTVLVKSGRNSN
VCHPCEIIETKQENGRLRFVFRKLPIRHAVDLTARNAPPNEVVYTDEIVKSGPSSIVSRCHVRWFPQTRP
VPTPYDRDGVGAFFFLTHQKKWTGNGYITSPLEEAPPSLNQGHDPQQDSKPKLRGLDLFCGGGNFGRGLE
EGGSVTMKWANDVNSKALHTYMANTEPGQIYPFLGSIDDFQRLAFQGRFADNIPQVGEVDFISGGSPCPG
FSQLTNDKETDAQRKNQSLVAAFASCVDLRYPKYGILENVAGIIQKHQNRGHDVFSQLMCALVGMGYQAR
LVLLDALSCGSAQVRSRVFIIFAAPGWTLP EAPIQTHSHQPNVKNFKLGR LPTGEPMARREVASCTPFSY
KSASQAAAGLPSLYDATPDICIAFPDHRVVSHTNTNTMRNRIRLIPKAPYGMNFSQAWYGR LGTRPRVAG
RGVLTRSERNMFSRLGEATMSTSIQSRAYGRQPPNQPMATIVTRASPRDAKQGRTIHWSEDRCLSVMEAK
RGQGFLDEELLGSAADVQYRIIGNSVAREVSLALGVVFAEAVMRSYGQGVEDLAVDSEDEVTIKTEMSPV
TTPGATRQQGENNGRNKRRRVG

>EGZ69028.1 DNA methyltransferase Dim-2 [Neurospora tetrasperma FGSC 2509]
MDLPDRSHGGMFIDVPAETMGFQEDYLDMFASVLSQGLAKEGDYVHHQPLPAAKEECLEPIAATTITPSP
DDPQLQLQLELEQQFQTESGLNGLDPAPAPESEDEADLPDGFSDSPDDDFVQRTERVAVEDLLKAAKA
AGKNKEDYIEFELHDFNFYVNYAYHPQEMRPIQLVATKVLHDKYYFDGVLKYGNTKHYVTGMQVLELPVG
NYGASLHSVKGQIWVRSKHNAKKEIYYLLKKPAFEYTRYYPFLWIADLGKHVVDYCTRMVEKKREVTLG
CFKSEFIQWASKAHGKSKAFQNWRAQHPRDDFRTSVAANIGYIWKEINGVAGAKRAAGDRLFRELMIVKP
GQYFRQEVPPGPLVTEGDRTVAATIVTPYIKECFGHMILGKVLRLAGEDAEKEKAVKLAKRLKIENKNDT
KADTKDDIMNDTATESLPTSLRALPVQVLEATPIESDIVSIVSSDLPPSENNPPPLTNGSVKPKAKANPK
PKPSTQPLHAAHVKYLSQELVNKIKVGDVISTPRDDSSNTDTKWKPTD TDDHRWFGLVQRVHTAKTKSGR
GLSSKSFVDVIWFYRPEDSPCCAMKYKWRNELFLSNHCTCQEGHYARVKGNEVLAVHPVDWFSTPESNKGE
FFVRQLYESEQRRWITLQKDHLTCYHNQPPKPPTTPYKPGDTV LATLSPSDKFSDPYEVVEYFTQGEKET
AFVRLKLLRRRKVDRQDAPANELVYTEDLVDVRAERIVGKCVVRCFRPDERIPSPYDRGGTGNIFFITH
RQDHAGCVPLDTFPPTLRQG FNPLGNLGKPKLRGMDLYCGGGNFGRGLEEGGVVEMRWANDIWDKAIHTY
MANTPDPNKT HPFLGSVDDLLRLALEGKFS DNVRPGEVDFIAAGSPCPGFSLLTQDKKVLNQVKNQSLV
ASFASFVDFYRPKYGVLENVSGIVQT FVNRKQDVLSQLFCALVGMGYQAQLILGDAWAHGAPQSRERVFL
YFAAPGLPLPDPPLPSHSHYRVKNRNIGFLCNGESYVQRSFIPTAFKFVSAGEGTADLPKVGDGKPDACV
FPFDHRLASGITPYIRAQYACIPTHPYGMNFIKAWNNNGVMMSKSDRDLFPSEGKTRTSDASVGWKRLNP

KTLFPTVTATSNPSDARMGPGHLHWDEDRPYTVQEMRRAQGYLDEEVLVGRITTDQWKLVGNSVSRHMLAI
GLKFREAWLGTLYDESAAVATATATTTTAAAVGVTVPMEEPRVGTDDSTRLSRSPVHTAVDLDDSKSER
SRSTTPATVLSTSSAAGDGSANAVGLEDNDNDNMEMMEVTRKRSSPAVDEEGMRPSKVQKVEVTVASPAS
RRSSRQTSRNPTASPLPEASKATTHEAPAPEEPESDAEYYSETYDKEGFDGDYHSGHEDQYSEEDEEEEY
AEPETMTVNGMTIVKL

>AAC49849.1 Masc1 [Ascobolus immersus]
MSERRYEAGMTVALHEGSFLKIQRVYIRQYHADNRREHMLVGPLFRRTKYLKALSKKVNEVAIVHESIHV
PVQDVIGVRELIITNRPFPCECRKGDEHTGRLVCRWVYNLDERAKGREYKKQRYIRRITEAEADPEYRVED
RVLRRRWFQEGYIGDEISYKEHGNGLDIVDIRSESPLQVLDGWGGDLVDLENGETSIPGPCRSASSYGR
MKPPLAQAAADSNTRSRYTFGDTFCGGGGVSLGARQAGLEVWAFDMNPNAGANYRRNFPNTDFFLAEAEQ
FIQLSVGISQHVLDILHLSPPCQTFSRAHTIAGKNDENNEASFFAVVNLKAVRPRLFTVEETDGIMDRQS
RQFIDTALMGITELGYSFRICVLNAIEYGVCQNRKRLIIIGAAPGEELPPFPLPTHQDFFSKDPRRDLLP
AVTLDDALSTITPESTDHHLNHVWQPAEWKTPYDAHRPFKNAIRAGGGEYDIYPDGRKFTVRELACIQG
FPDEYEFVGTLTDRRIIGNAVPPPLSAAIMSTLRQWMTEKDFERME

>AAM27408.1 RIP defective [Neurospora crassa]
MAEQNPFFVIDDEDDVIQIHDEEEVEEEVAEVIDITEDDIEPSELDRAGSRPKEETLPSLLLRDQGFIVR
PGMTVELKAPIGRFAISFVRVNSIVKVRQAHVNNVTIRGHGFTRAKEMNGMLPKQLNECCCLVASVDTRDP
RPWREQAILDINPENVLTTRELRVNTAQFPRYRDKSADMAIKRQQVKDMGILVCRYSYVEYRHVDKPREW
SFIRVEENEADGFRSLDDVLVNGWRGGKVPGGSFPLPAGQEHGHGHVHNVDLTLSTLPSLTARGPKQVPS
DQKYTAGDTFAGAGGASRGITDAGVHLEFCVDNWEHAVASLNANFQGGQDTTTYDIDMHNFIYNKEIRHRV
DILHLSPPCQVWSPAHTRPGQNDERNLAILFSCTHLIEKIRPRLFTVEQTFGILHPRLDNFFQSLVHGFT
DHGYSVRWKVVNFVSHYGLPQPRRLIMIGAGPGEKLPFPSPPTHGNGLKPVTTARQALAAIDGRRRYPLH
QPYLQPFPTKRAHWDGDKPLPYTVTCGAAENYHWSGLRQFTPQEYALLQGFPMHKFAGNYIKKQIGNAF
PPIFVKLLYKHLVECLDKRDNIIRQAQARTEEAAPFQTPRKLVGSGRNEVGSVGRNEEDDGEVTFLLSSR
KRRRQFAAVEVIDNNNRISTHRSKRARRLVGNTPPCQAAAAQAKQKTIIDLDEDISNLDLDQDRDDDRS
DTATIRESSVEVEASPRVSPVRRHPAAPPSSHLPLGPAGLTNP IQGGPSTSTSTRTGSKASSSSQQQTHH
NNMQGETVRRKLFFAVPPSRTEPFSSPSSSTSSSTSSSTTASSSAAGSSNGSNSSSPVVKENQKGTREKPEM
ELFDD

>AAM27410.1 RIP defective [Neurospora tetrasperma]
MAEQNPFIIDDEDDVIQIHDEEEIEGEVAEVIDITENDIELSEPDRAFRSGPKEETLPSFSLRDQGFIVR
PGMTVELKAPIGRFAISFVRVNSIVRLRQAHVNNVSIIRGHGFTRAKEMNGMLPKQLNECCCLVASVDTRDP
RPWREQAILDINPENVLTTKELRVNTAPFPRYRDGFADTAIKRQQVKDMGILVSRYSYVEYHQTERPREW
SFVKMEEKEADEEFRLSDDVLVNGWRGGKVPGGSFPLPAGQEHGHRHVHNVDLTLSTLPSRGTKQVPSDQK
YTAGDTFAGAGGASRGITDAGVHLEFCVDNWEHAVASLNANFQGGQDTTIYDIDMHNFIYDKEIRHRVDIL

HLSPPCQVWSPAHTRPGQNDKLNLAIFSCTHLIEKIRPRLFTVEQTFGILHPRFDNFFQSLVHGFTDHG
YSVRWKVVNFVSHYGLPQPGRRLIMIGAGPGEKLPPFPSPTHGNGLKPAATTARQALAAIDERRRYPLHQPY
LQFPFTRKAPWDGDKPLPYTVTCGAAENYHWSGLRQFTLQEYALLQGFPMHKHFAGSYIKKQIGNAFPPPI
FVKLLYKHLVECLDKRDNIIRQAQARTEEAPFQTPRKLGNVGRNEEDDGEVTFLLSRKRRRQFAVVELID
NNNSNSSRSKRARLVGNTFPCQQPAAQAKQKTVIDLDEDISNLDLDQDRDDGRSDTATIRESSVEVEVD
SPRVSPVRRHPAPPSHLLGPGPNPIRGGPSTCTRTGSKASSSQQTHNMQGETVRRKLFFTAPPPRTEPF
SSPSSTSSTSAATTTSSAESSNGSSSSSPVVKENQKKGTSKEPMELFDDD

>NP_199727.1 methyltransferase 1 [Arabidopsis thaliana]
MVENGAKAAKRRKRLPEIQEVEDVPRTRRPRRAAACTSFKEKSIRVCEKSATIEVKKQQIVEEEFLALR
LTALETDVEDRPTRRNLNDFVLFDSGVPQPLEMLEIHDIFVSGAILPSDVCTDKEKEKGVRCSTFGRVEH
WSISGYEDGSPVIWISTELADYDCRKPAAASYRKVYDYFYEKARASVAVYKKLSKSSGGDPDIGLEELLAA
VVRSMSSGSKYFSSGAAIIDFVISQGDFIYNQLAGLDETAKKHESSYVEIPVLVALREKSSKIDKPLQRE
RNPSNGVRIKEVSQVAESEALTSQDLVDGTDGDDRRYAAILLQDEENRKSMQQPRKNSSSGSASNMFYIKIN
EDEIANDYPLPSYYKTSEEETDELILYDASYEVQSEHLPHRMLHNWALYNSDLRFISLELLPMKQCDDID
VNIFGSGVVTDDNGSWISLNDPDSGSQSHDPDGMCIFLSQIKEWMIIEFGSDDIISISIRTDVAWYRLGKP
SKLYAPWWKPVLTARVGISILTFLRVESRVARLSFADVTKRLSGLQANDKAYISSDPLAVERYLVVHGQ
IILQLFAVYPDDNVKRCPFVVGGLASKLEDHRHTKWI IKKKKISLKELNLNPRAGMAPVASKRKAMQATTT
RLVNRIWGEFYSNYSPEDPLQATAAENGEDVEVEEGNGEEVEVEEGENGLTEDTVPEPVEVQKPHTPKK
IRGSSGKREIKWDGESLGKTSAGEPLYQQALVGGEMVAVGAVTLEVDDPDEMPAIYFVEYMFESTDHCK
MLHGRKVLQSGSMTVLGNAANERELFLTNECMTTQLKDIKGVASF EIRSRPWGHQYRKKNITADKLDWARA
LERKVKDLPT EYYCKSLYSPERGGFFSLPLSDIGRSSGFCSTCKIREDEEKRSTIKLNVSKTGFFINGIE
YSVEDFVYVNPDSIGGLKEGSKTSFKSGRNIGLRAYVVCQLEIVPKESRKADLGSFQVVRFFYRPEDV
SAEKAYASDIQELYFSQDTVVLPPGALEGKCEVRKKSMDPLSREYPISDHIFFCDLFFDTSKGSLKQLPA
NMKPKFSTIKDDTLLRKKKGKGVSEIESEIVKPVEPPKEIRLATLDIFAGCGGLSHGLKKAGVSDAKWA
IEYEYPAGQAFKQNHPESTVFVDNCNVILRAIMEKGGDQDDCVSTTEANELAAKLTEEQKSTLPLPGQVD
FINGGPPCQGFGSMNRFNQSSWSKVQCEMILAFLSFADYFRPRYFLLENVRTFVSFNKGQTFQLTLASLL
EMGYQVRFGILEAGAYGVSQSRKRAFIWAAPEEVLPEWPEPMHVFGVPKLKISLSQGLHYAAVRSTALG
APFRPITVRDTIGDLPVENGDSTRNKEYKEVAVSWFQKEIRGNTIALTDHICKAMNELNLIRCKLIPT
PGADWHDLPKRKVTLSGDRVEEMI PFCLPNTAERHNGWKGLYGRLDWQGNFPTSVTDPQPMGKVGMC FHP
EQHRILT VRECARSQGF PDSYEFAGNINHKHRQIGNAVPPPLAFALGRKLKEALHLKKS PQHQ

>AAI63894.1 Dnmt1 protein [Danio rerio]
MPTRTSLSLPEDVKERLQVLDEGGDSLSDDEECVKEKLRLQLQEFLLTDTQDQLKNLEDKLSSELSTEVYM
SEVKAVLKALGVGKEGDGVEQNGHSNGFSENGSHKDNGEQEGAMDTQDEGDTIKSPSAPKGRGGRRSKA
DSEPKKSPASSRVTRNTGKQQTIVSMFSRVPKRKSDELNGEPANGDTEIKTEETITEEVREEKRLKTEDE
KPEAENAANLKPVSTAKTPPPKCPDCRQYLLDSDSLKFLQGDPPDALDEPEMLTDERLSLFDSDNEDGFESY

EDLPQHKITNFSVYDKRGHLCPFD SGLIEKNVELYFSCAVKPIYDDNPCMDGGVPAKKLG PINAWWITGF
 DGGEKALIGFTTAFADYIILMDPSEEYSAIFALMQEKIYMSKIVVEFLQKNQDATYEDLLNKIETTVP
 PAGLNFNRFTEDTLRHAQFVVEQVESYDEAGDSDEQPIIITPCMRDLIKLAGVTLGKRRARRQAVRHPTKI
 EKDNKGPTKATTTKLVLIFDFTFFSDQIDQNNKDDGGVVRQRCGVCEVCQAPDCGKCSACKDMIKFGGSGR
 SKQACQKRRCPNLAVKEAEDDENMDEEDVLPVKDTKKMSQTKKKKQTKNKISWVGEPLKTEGKKEYMKV
 RVENEVLEVGDVSVSPDDPSHPLYLARITALWDDGEKMFHAHWFCRGTDTVLGESSDPLELFLVDECED
 MQLSFIHGKVN VFYKAPSENWYMEGGMDEDIKVIDDDGESFFYQLHYEGECARFETPPKVTPSEDCKYKF
 CASCTRNEEREAE SVPHAYE PLEDEESDSKV FYGLVNYKGEQYKVGDSVYLPPEAFNFVVKAA SPVKRSH
 RKDDVDEDLYPEYYRKSSDYIKGSNLDAQPFRIGRIKEIFCNKRSNGKPDTEIKLRLYKFYRPENTHK
 GPKGAYHSDINQLYWSDEEATVSMTEVLTRCRVEYAEDLVESVQDYSNKGPD RFYFLEAYNAKTSFEDP
 PNHARS AVNKGKGKGGKGGKGAAPQEPQDQEAQEPAPVKLR TLDVFSGCGGLSEGFHQAG ISETHWA
 IEMWDPAQAFA RLNNPGTTVFTEDCNVLLKLVM SGEKTNLSLGQKL PQKGDVEMLCGGPPCQGFSGMNRFN
 SRTYSKFKNSLVVSYLSYCDYRPKFFLLENVRNFVSFKRSMVLKLT LRCLVRMGYQCTFGVLQAGQYGV
 AQTRRAIILAAAPGEKLP RYPEPLHVFA PRACSLSVAVDEKKYVSNVTRGNGGIYRTITVRD TMSDLPE
 IRNGAAALEISYNGEPQSWFQRQIRGSQYQPILRDHICKDMSALVAARMRHIPLAPGSDWRDL PNIEVRL
 RDGTTT KKLRYTHSDKKNGRSGTGALRGVCS CSEKQCDPADRQFNTLI PWCLPHTGNRHNHWAGLYGRL
 EWDGFFSTTVTNPEPMGKQGRVLHPEQHRVVS VRECARSQGF PDTYRFFGNVLDKHRQVGNAVPPPLSKA
 IGLEVKKCVLEKMRNATEPVKQEKME LSD

>DNA (cytosine-5)-methyltransferase 1 isoform a [Homo sapiens]
 MPARTAPARVPTLAVPAISLPDDVRRRLKDLERDSLTEKECEVKEKLNLLHEFLQTEIKNQLCDLETKLRK
 EELSEEGYLAKVKSLLNKDLSLENGAHAYNREVN GRLENGNQARSEARRVGMADANSPPKPLSKPRTPRR
 SKSDGEAKRSRDPPASASQVTGIRAEPSPSPRITRKSTRQTTITSHFAKGP AKRKPQEESERAKSDESIK
 EEDKDQDEKRRRVTSRERVARPLPAEERAKSGTRTEKEEERDEKEEKRLRSQTKEPTPKQKLKEEPDR
 EARAGVQADEDEDGDEKDEKKHRSQPKDLAAKRRPEEKEPEKVN PQISDEKDEDEKEEKRRKTT PKEPTE
 KKMARAKTVMNSKTHPPKCIQCGQYLDDPDLKYGHPPDAVDEPQMLTNEKLSIFDANESGFESYEALPQ
 HKLTCFSVYCKHGHLCPID TGLIEKNIELFFSGSAKPIYDDDP SLEGGVNGKNLGPIN EWWITGFDGGEK
 ALIGFSTSF AEYIILMDPSPEYAPIFGLMQEKIYISKIVVEFLQSNSDSTYEDLINKIETTVP PPSGLNLNR
 FTEDSLLRHAQFVVEQVESYDEAGDSDEQPIFLT PCMRD LIKLAGVT LGQRRARQARRQTIRHSTREKDRG
 PTKATTTKL VYQIFDFTFFAEQIEKDDREDKENAFKRRRCGVCEVCQQPEC GKCKACKDMVKFGGSGRSKQ
 ACQERRCPNMAMKEADDDEEVDDNIPEMPSPKMMHQGKKKKQNKNRISWVGEAVKTDGKKSYYKKVCIDA
 ETLEVGDVCSVIPDDSSKPLYLARVTALWEDSSNGQM FHAHWFCAGTDTVLGATSDPLELFLVDECEDMQ
 LSYIHSKVKVIYKAPSENWAMEGGMDPESLLEGDDGKTYFYQLWYDQDYARFESPPKTQPTEDNKFKFCV
 SCARLAEMRQKEIPRVLEQLEDLSRVLYYSATKNGILYRVGDGVYLPPEAFTFN IKLSSPVKRPRKEPV
 DEDLYPEHYRKYS DYIKGSNLDAPEPYRIGRIKEIFCPKKSNGRPNETDIKIRVNKFYRPENTHKSTPAS
 YHADINLLYWSDEEAVVDFKAVQGRCTVEYGEDLPECVQVYSMGGPNRFYFLEAYNAKSKSFEDPPNHAR
 SPGNKGKGKGGKGGKPKSQACEPSEPEIEIKLPKLRTLDVFSGCGGLSEGFHQAGISDTLWAIEMWDPA
 QAFRLNNPGSTVFTEDCNILLKLVMAGETTNSRGQLPQKGDVEMLCGGPPCQGFSGMNRFN SRTYSKFK

NSLVVSFSLSYCDYYRPRFFLLENVRNFVSFKRSMVLKLTLRCLVRMGYQCTFGVLQAGQYGVAQTRRRAI
ILAAAPGEKLPLFPEPLHVFAPRACQLSVVVDDKKFVSNITRLSSGPFRTITVRDTMSDLPEVRNGASAL
EISYNGEPQSWFQRQLRGAQYQPILRDHICKDMSALVAARMRHIPLAPGSDWRDLNIEVRLSDGTMARK
LRYTHDRKNGRSSSGALRGVCSCVEAGKACDPAARQFNTLIPWCLPHTGNRHNHWAGLYGRLEWDGFFS
TTVTNPEPMGKQGRVLHPEQHRVSVRECARSQGFDPDYRLFGNILDKHRQVGNAVPPPLAKAIGLEIKL
CMLAKARESASAKIKEEEAAKD

>DNA (cytosine-5)-methyltransferase 1 [Rattus norvegicus]
MPARTAPARVPALASPAGSLPDHVRRLKDLERDGLTEKECVKEKLNLLHEFLQTEIKSQLCDLETKLHK
EELSEEGYLAKVKTLNLDLCLNGTSLTQKANGCPANGSRPTWKAEMADSNRSPRSRPKPRGPRRSKS
DSETMIEASSSSVATRRTTQTITITSHFKGPAKRKPKEDSEKGNANESAAEERDQDKRRVAGTESRASR
AGESVEKPERVRPGTQLCQEEQGEQEDDRRPRRQTRELASRRKSREDPDREARPGTHLDVDDDDDEKDKRS
SRPRSQPRDLATKRRPKEEVEQITPEPPEGKDEDEREEKRRKTTRKKPEPLSIPVQSRVERKASQGKASA
IPKLNPPQCCECGQYLDLDDPDLKYQQHPVDAVDEPQMLTNEALSVFDSNSSWFETYDSSPMHKFTFFSVYC
SRGHLCPVDTGLIEKNVELYFSGVAKAIHEENPSVEGGVNGKNLGPINQWWISGFDGGEKALIGFSTAF
EYFLMEPSPEYAPIFGLMQEKIYISKIVVEFLQSNPDAVYEDLINKIETTVPSPAINVNRFTEDSLLRHA
QFVVSQVESYDDAKDDDETPIFLSPCMRSLIHLAGVSLGQRRATRRTVINSKVKRKGPTKATTTKLVIYQ
IFDTFFSEQIEKDDKEDKENTMKRRRCGVCEVCQQPECGKCKACKDMVKFGGTGRSKQACLKRRCPNLAV
KEADEDEEADDDIPELPSPKKLHQGKKKKQNKDRISWLGEVPVKIEENRTYYWKVSIIDEETLEVGDVSVI
PDDPSKPLYLARVTALWEDKNGQMFHAHWFCAGTDTVLGATSDPLELFLVGECEENMQLSYIHSKVVIYR
GPSPNWAMEGGMDPEAMLPGAEDGKTYFYQFWYSQDYARFESPPKTQPTEDNKHKFCCLSCIRLAELRQKE
MPKVLQLEEVDRVYLCSSITKNGVVYRLGDSVYLPPEAFTFNIMKMASPMKRSKRDPVNENLYPEHYRKY
SDYIKGSNLDAPEPYRIGRIKEIHCGKKKGKGVNEADIKIRLYKFYRPENTHKS IQATYHADINLLYWS
EEAVVDFSDVQGRCTVEYGEDLLESIQDYSQGGPDRFYFLEAYNSKTKSFEDPPNHARSPGNKGKKGK
KGKGPQVSEPKPEAAIKLPKLRTLDVFSGCGGLTEGFHQAGISETLWAIEMWEPAAQAFRLNNPGTTV
FTEDCNVLLKLVMAGEVTNSLGQRLPQKGDVEMLCGGPPCQGFSGMNRFNRSRTYSKFKNSLVVSFSLSYCD
YYRPRFFLLENVRNFVSFRSMVLKLTLRCLVRMGYQCTFGVLQAGQYGVAQTRRRAIILAAAPGEKLPL
FPEPLHVFAPRACQLSVVVDDKKFVSNITRLSSGPFRTITVRDTMSDLPEIQNGASAPEISYNGEPQSWF
QRQLRGSHYQPILRDHICKDMSALVAARMRHIPLSPGSDWRDLNIIQVRLRDGVITNKLRYTFHDTKNGC
SSTGALRGVCSAEGKTCDPASRQFNTLIPWCLPHTGNRHNHWAGLYGRLEWDGFFSTTVTNPEPMGKQ
RVLHPEQHRVSVRECARSQGFDPDYRLFGNILDRHRQVGNAVPPPLAKAIGLEIKLCLLASAQESASAA
VKGEETTTED

>DNA (cytosine-5)-methyltransferase 1 [Sus scrofa]
MPARTAPARVAALASRAFLPDDVRRRLKDLERHSLTEKECVKEKLNLLHEFLQTEIKNQLCDLETKLHK
EELSEEGYLAKVKSLLNKDLSLENGAHAFSREVNGYLENGSQTSGEDRRVEMAEENKSPKPVSR LGTPRR
SKSDGEAKSAEVSSSPRITRQTTRQTITITSHFTRGPGKRKPEEDTAKAKPDSPEEEEEKDQEEKRRKVT
RDSVAGLLPTEEPERVRPGTHMEEDDKEEKRLRSQTKELTPKQKIKEELDRSTRPGGAQPGTNEEDKDEK

RHRSQPKGLAGKRRPEEKEPERIKPQVSDEKDEDEKEEKRRRTTYKEPTEKKLARTKTAVVSTKADPLKC
VQCGQYLDDAELKYEQHPPDAVEEIQLLTNERLSIFDANESGFESYEALLQHKLTFGSVYCKRGHLCPID
TGLIEKDVELFFSGSAKPIYEDDPSLEGGVNGKNLGPINWWITGFDGGEKALIGFSTSFAEYILMDPNP
EYAPLFSVMQEKIYISKIVVEFLQNNPDSTYEDLINKIETTVPSSVLNLRFTEDSLLRHAQFVVEQVES
YDQAGDSDEQPIFLTPCMRDLIKLAGVTLGKRRRAERRRTIGHSTKEKDKGPTKATTTKLVIYQIFDTFFAE
QIEKDDKEDKENAFKRRRCGVCEVCQQPECCKACKDMVKFGGSGRSKQACQERRCPNMAMKEADDDEE
VDDNIPEMPSPKKMHQGGKKKQNKDRISWIGEAVKTDGKKIYYKKVCIDSETLEVGDVSVIPDDSSKPL
YLARVTALWEDSSNGQMFHAHWFCAGIDTVLGATSDPLELFLVDEGEDMQLSYIHSKVKVIYKPPSENWA
LEGGMDPEALMSKDDGKTYFYQLWYDQEYARFESPPKTQPTEDNKFKFCVSCARLAEMRQKEVPRVMEQL
EDLDGRVLYSSATKNRIQYRVGDGVYLPPEAFTFNILKSSPVKGPRKEPVDEDLYPEHYRKYSYDIKGSN
LDAPDAYRIGRIKEIFCTKKSNGKPNETDIKIRLNKFYRPENTHKSTPASYHADINLLYSDEEAVVDFK
SVQGRCTVEYGEDLPECLQDFSAGGPDRFYFLEAYNAKSKSFEDPPNHARSPGNKGKGGKGSRTKSQT
CEPSELETEIKLPKLRLTLDVFSGCGGLSEGFHQAGISETLWAIEMWDPAAHAFRLNPNPGSTVFTEDCNVL
LKLVMAGEVTNSRGQKLPQKGDVEMLCGGPPCQGFSGMNRFNRSRTYSKFKNSLVVSFLSYCDYRPRYFL
LENVRNFVSFKRSMVLKLTLRCLVRMGYQCTFGVLQAGQYGAQTRRAIILAAAPGEQLPLFPEPLFAP
RACQLSVVVDDKKFVSNITRLSSGPFRTITVRDMSDLPEIRNGASAQDISYNGEPQSWFQRQLRGSQYQ
PILRDHICKDMSALVAARMRHIPLAPGSDWRDLNIEVRLSDGTLARKLRYNYHDKKNGCSSTGALRGVC
SCVEVGKACDPAARQFNTLIPWCLPHTGNRHNHWAGLYGRLEWDGFFSTTVTNPEPMGKQGRVLHPEQHR
VVSVRECARSQGF PDTYRLFGNILDKHRQVGNVPPPLAKAIGLEIKRCMLAKARESASVKVKEEETTKD

>DNA methyltransferase (cytosine-5) 1, isoform CRA_b, partial [Mus musculus]
PLPIGFRAREKAGVSFRAVLSSATCKMPARTAPARVPALASPAGSLPDHVRRLKDLERDGLTEKECVRE
KLNLLHEFLQTEIKSQLCDLETKLHKEELSEEGYLAKVKSLLNKDLSLENGHTLTQKANGCPANGSRPT
WRAEMADSNRSPRSRPKPRGRSKSDSDTLFETSPSSVATRRTTRQTTITAHFTKGPTKRKPKEESEEG
NSAESAAEERDQDKKRRVVDTESGAAAVEKLEEVTAGTQLGPEEPCEQEDDNRSRLRRHTRELSLRKSK
EDPDREARPETHLDEDEDGKKDKRSSRPSQPRDPAAKRRPKEAEPEQVAPETPEDRDEDEREEKRRKTT
RKKLESHTVPVQSRSERKAAQSKSVIPKINSPKCPECQHLDDPNLKYQQHPEDAVDEPQMLTSEKLSIY
DSTSTWFDTYEDSPMHRFTSFVSVCYSRGHLCPVDTGLIEKNVELYFSGCAKAIHDENPSMEGGINGKNLG
PINQWWLSGFDGGEKVLIGFSTAFAYILMEPSKEYEPIFGLMQEKIYISKIVVEFLQNNPDVYEDLIN
KIETTVPSTINVRFTEDSLLRHAQFVVSQVESYDEAKDDDETPIFLSPCMRALIHLAGVSLGQRRATR
RVMGATKEKDKAPTATTTKLVIYQIFDTFFSEQIEKYDKEDKENAMKRRRCGVCEVCQQPECCKACKD
MVKFGGTGRSKQACLKRRCPNLAVKEADDDEEADDDVSEMPSPKKLHQGKKKKQNKDRISWLGGQPMKIEE
NRTYYQKVSIDEEMLEVGDVSVIPDDSSKPLYLARVTALWEDKNGQMMFHAHWFCAGTDTVLGATSDPL
ELFLVGEENMQLSYIHSKVKVIYKAPSENWAMEGGTDPETTLPGAEDGKTYFFQLWYNQYARFESPPK
TQPTEDNKHFKCLSCIRLAELRQKEMPKVLEQIEEVDGRVYCSSITKNGVVYRLGDSVYLPPEAFTFNIL
VASPVKRPKKDPVNETLYPEHYRKYSYDIKGSNLDAPEPYRIGRIKEIHCCKKKGKVNEADIKLRLYKFI
RPENTHRSYNGSYHTDINMLYSDEEAVVNFSDVQGRCTVEYGEDLLESIQDYSQGGPDRFYFLEAYNSK
TKNFEDPPNHARSPGNKGKGGKGGKGGKHQVSEPKEPEAAIKLPKLRLTLDVFSGCGGLSEGFHQAGISE

TLWAIEMWDPAQAFLNNPGTTVFTEDCNVLLKLVIMAGEVTNSLGQRLPQKGDVEMLCGGPPCQGFSGM
 NRFNSRTYSKFKNSLVVSFLSYCDYYRPRFFLLENVRNFVSYRRSMVLKLTLRCLVRMGYQCTFGVLQAG
 QYGV AQTRRRAI ILAAAPGEKLPFPEPLHVFAFRACQLSVVDDKKFVSNITRLSSGPFRTITVRDTMS
 DLPEIQNGASNSEIPYNGEPLSWFQRQLRGSHYQPILRDHICKDMSPLVAARMRHIPLPFGSDWRDL PNI
 QVRLGDGVIAHKLQYTFHDVKNGYSSTGALRGVCSAEGKACDPESRQFSTLIPWCLPHTGNRHNHWAGL
 YGRLEWDGFFSTTTVTNPEPMGKQGRVLHPEQHRVSVRECAR SQGFPSYRFFGNILDRHRQVGNAVPPP
 LAKAIGLEIKLCLLSSARESASAAVKAKEEAATKD

>DNA methyltransferase 1 L homeolog [Xenopus laevis]

MPAQSTSLALPADVRKRLKDLKRDQDGMTEKEHVQQLSLVLGFLEADARNKLN DLESKLSSEELSEEGY
 LTKVKSLLGKQLSFENVLDALNGETNGCSTNGTCGSDEEDVQLSENTSGVKNRKPRKSKVNGENKKSPA
 RARPSRSTAGKQPTILSMFSKGSTKRKSSDDEKDTDVPADADQPEEKEKEEKRIKIEVNESEDKRSDAEE
 GKAKAPVQPPKTPPPKCMDCRQYLLDDPDLKYFQGDPPDALDEPEMLTDERLSLFESNEDGFESYDDL PQH
 KVTCFSVYDKRGHLCPFDSGLIEKNVELYFSAVVKPIYDDSPSLDGGVRAKKLG PINAWWITGFDGGEKA
 LIGFTTAFADYILMDPSEEYSSIFALIEEKIYMSKIVVEFLQNNPDVSYEDLLNKIETAVPPSALNFNRF
 TEDSLLRHAQFVVEQVESYDEAGDSDEQPVIVTPCMRDLIKLAGVTLGKRRARRQTIRHPTKIEKDKGP
 TKATTTTRLVYQIFDTFFFEQIEKDAEKENGIKRRACGVCEVCQQPDCGQCKACQAMLKFGGAGRTKQACM
 QRRCPNLAVKEADEDEEVEDVLPPEMPSPKKILQGKKKLEKKNRISWVGDPVKTEGKKEYYLVKVSIDSEI
 LEVGDCVSVSPDNPTPEPLYLARITSMWEEGCGQMFHAHWFC LGTDTVLGATSDPLELFLVDECEDMQLSY
 IHGKVNVLKAPSDNWFMEGGTDTEIKVVEDDGNTYFYQLWYDPEYARFETPPKPQSTEDNKYKFTSCA
 RLDEIRQKEIPRVSNPVEELDSKICYSTATKNDVHYKVG DGVLHFPDAFSFSVKLGSPMKRPQRKDDVDE
 DLYPEYRKSSDYIKGSNLDAPEPYRLGRIEIFCNKRSNGKPNEADIKLRIYKFYRPENTHKGMKASYH
 SDINMVYWSDEEAVVEFKAVQGHCTVEYGEDLTESI QEYSAGGSDRFYFLEAYNAKTKSFEDPPNHARGA
 VNKGKGKKGKKGKKTSPKSENEQLNSGDKLPKLRTLDVFSGCGGLSEG FHQAGISETNWA IEMWEPAAQ
 AFRLNNPGTTVFTEDCNILLKLVMSGEKTN SLGQRLPQKGDVEMLCGGPPCQGFSGMNRFNSTYSKFKN
 SLVVSYSYCDYYRPKYFLLNVRNFVSFKKSMVLKLT LRCLVRMGYQCTFGVLQAGQYGV AQTRRRAI V
 LAAAPGEKLP MFPEPLHVFAFRAC T LSVVVDEKKYVSN TTRTNSSLFRTITVRDTMSDLPEIRNGASALE
 ISYNGEPQSWFQRQIRGSQYQPILRDHVCKDMSALVAARMRHIP LAPGSDWRDL PNMEVRLSDGTTSRKL
 RYTHHDKKNRSGTGALRGVCCCSEGKQCDPADRQFGT LIPWCLPHTGNRHNHWAGLYGRLEWDSFFSTT
 VTNPEPMGKQGRVLHPEQHRVSVRECAR SQGF PDTYRLFGNILD KHRQVGNAVPPPLSRAIGLEIKSCV
 LTRMKENGTETVKAEMETD

>DNA cytosine-5 methyltransferase [Bombyx mori]

MPTSTITCNSITQVCMDKILDGDEI IKENSKRKRSC EEIVSANNKR SKTEDNDGHQISQDSTSNDSIENL
 NIPAKNTSLIVSENINNVYKNYDEVENKPVYKNGDPIVVEIDNKDKPGSVNNNHDMIDDSETISNIKNSN
 NIIPDTEKCNICGQFLNNSDLIYYQGHPQDAVEEYIALTNDKLVLSGGEDGDIMERPQTNITGFTIFDEQ
 GHLCPIDGGLVENDVRIYMSGYLKSI CSDSSEIDEESI PVKDVGP IIEWFIHGFDGGDRNCITLSTEFGE
 YNLLKPSEAYTPLMNNLYEKIWL SKVVVEFLEEYHYLQPSYEDLLEVVRDFS IPELNNKKMTEEMLHKHA

QFVCDQVVSLEIEEDDEPLITLPCMRELIKLMGIKFGKRKIRTQIQYKKTDKKAWTKATTTPLVRKTFES
 FFSNQLDKTNHELVLRRKRCGVCEACQLPDCGECNACRAMAKFGGHGRTKKACVRRLCPNMAVEQAEDSD
 PDDEDEYQQISEKKQDKIDDAVPVKLTGSSNKNLKWIGEPVKADATKIYYEKVEIDGAELCNGDFVMIET
 SQTNIPTLVAKVVMWKEIHNPKSGYFHGEVFIASDTVLGEVSDPREVFLGDRCCHGAPLSSILRKANI
 ERKETSADWFKLGGKEVDDEHFEDDGRTYFYSKYYDRFTSRFEDLPDPACPNALRKHRCPCSCERKTKR
 DARNIPKVFEKLIIVKSEIVSEQNRSEWSYVKWQDFDYKKGCGVFLKPGTFKLKNSMTKANTVAKPRFEKV
 DETIYPEYYRKNDSNTRGSNIDTGEPCVGYIAAVTAASEGPLVVPQDIYLVNVLLRPENTSSKFPQHE
 DTNVLYWTTTIREIPFSTVVGHCHLIYEQNVQNIISLQEWLGNDPCRIFYFRMAYCKSTGEFTDLPQNAIS
 VGRTRDTKDKGKGKSTKTIETVPAKVVEEKIRPLRTLDFVAGCGGLSEGLHQAGVAECKWAIENVEAA
 SHAYSLNNKSCIVFNEDCNALLKTVMSGAKHSANGLRLPMQGEVELLCGGPPCQGFSGMNRFNRSREYSNF
 KNSLVASYLSFCDIYRPKYFILENVRNFVAFKKGMLVLTLLRALLDMGYQCTFGILQAGNYGVPQTRRRL
 IILAAAPGYNLPFYPEPTHVFSRRACTLTITIDGKRFTSNHWDSEAPKRTCTIQDAMSDLPQICNGANK
 IEIEYGSMPESHFQRLVRSNDENSKLRDHICKNMAPLIQARISRIPTTPGSDWRDLPNISVTLSDGTKCK
 VLQYRYDDKRNRRSSSGAVRGVCACASGRACSPDKQENTLIPWCLPHTGNRHNHWAGLYGRLSWGYYFS
 TTVTDPEPMGKQGRVLHPDQHRVSVRECARSQGFDPDTYLFAGSVQDKHRQIGNAVPPPLGAALGREIKK
 ALTLSLTTS

>DNA methyltransferase-2 [Arabidopsis thaliana]
 MAEQELQRINEKKPWQVLEFYSGIGGMRYSLMASGIVSEVVEAFEINDSANDVYQHNFKHRPYQGNIQSL
 TAADLDKYNADAWLLSPPCQPYTRQGLQKHSGDARAFSFLRILELIPHTTKPPQMLFVENVVGFTSDTH
 MEMIGTLTKLDYVTQEFILSPLQFGVPYSRPRYFCLAKRKLPLFKSQHSNNKLLWSPDPLYGRDDQVEFG
 KCQAEEGLDKLLLEFCKPVEKFLELAHVDGEPSSVDLSSENGSKDCCGQEGDSVPDSVHQYLVPVSLIERW
 GNAMDIVYPDSKRCCCFTKSYRYVKGTGSLLATVQPKIKGESCLKEQRLRYFTPREVANFHSFPEDFE
 FPKHISLRQRYAMLGNSLSVAVVAPLLRYLFDS

>DNA methyltransferase-2 [Spodoptera frugiperda]
 MSHKILELYSGIGGMHCAWKESGLDGEIVAAMDINTVANSVYKHNFETNLLNRNIQQLTPQVIKKWNVD
 TILMSPPCQPFTRNGKYLDNDPRTNSFLYLIGILDQLDNVDYILMENVKGFENSTVRNLFIDKLKECNF
 IYQEFLLCPSTVGVPNRSLRYCTARRNNLTWPFKRRDEIITRLPKDFGVPHSLESIIEDVDKFLVPE
 KMLRCAKVFDICYKTSKRSCCFTKAYTHYADGTGSIFTDKPREVVQKCYEEAKQNEIGGEKFVELFKELK
 LRYFTPKEVLMIMCFPKSYNLPNTISMKQCYRLLGNSVNVKVISELLKILFE

>(cytosine(38)-C(5))-methyltransferase [Sus scrofa]
 MEPLRVLELYSGIGGMHQALRESCIPAQVVAIDVNTVANEVYKYNFPHTQLLAKTIEGVTLLEFDRLSF
 NMVLMSPPCQPFTRIGLQGDVTDPRNTNSFLYILDILPRLQKLPKYILLENVKGFESSTRDLIQTINCI
 GFQYQEFLLSPTSLGIPNSRLRYFLIAKLQSEFPFPQAGQVLMEFPQMESEHPQKHAIDAQSKIEEKI
 ERNICLDSSAQCSGKEAILFKLETAGEIDRKHQQDSDLVQMLKGFLEDDIDMNSYFLPPKSLLRYALLL
 DIVKPTSRRSMCFTKGYGRYIEGTGSVLQTSQEDVQIENIYKSLTSLSPEEKIMKLLMLKLRFFTPKEIAN

LLGFPPEFGFPEKITVKQRYRLLGNSLNVHVVAKLILKILYASVLSSSARWFQYSIISK

>methyltransferase 2, isoform C [Drosophila melanogaster]

MVFRVLELFSGIGGMHYAFNYAQLDGQIVAALDVNTVANAVYAHNYGSNLVKTRNIQSLSVKEVTKLQAN
MLLMSPPCQPHTRQGLQRDTEKRS DALTHLCGLIPECQELEYILMENVKGFESSQARNQFIESLERSGF
HWR EFILTP TQFNVPNTRYRYCYIARKGADFPFAGGKIWEEMPGAIAQNQGLSQIAEIVEENVSPDFLVP
DDVLT KRVLVMDIIHPAQSRSMCF TKGYTHYTEGTGSAYTPLSEDESHRIFELVKEIDTSNQDASKSEKI
LQQRLDLLHQVRLRYFTPREVARLMSFPENFEFP PETTNRQKYRLLGNSINVKVVGELIKLLTIK

>DNA (cytosine-5-)-methyltransferase 3 [Danio rerio]

MVADV KIGDDKQSLCELLDWLNGLLQATFSQVEDTCSGAAFCQLMDIIQPGSIDVTKNFTAEENLDILN
NYNLLQEAFSKAQIQKELELTLLVNGDIMTTCDLLTWFKDMYDHNFAKQKCNPQVAFIKPEVVSLKSSRE
FETIEKENVSSLYNTEETSSNQKTQHVEKTSQESVSWSP LTSFIRKYGSSTLTDDSEN NVNSKDCPGQKS
FGDITPFWRQTPYCLYLLHGVELEDDKKASVLLLGGFFDKETGENKIRLLDVVYPTKESTEDICNYILDTL
RKIGIPLFNMAILYSDFPDHEHLVAGLQLMKAEIVSLCGLTDLTGQVCHSGVEKIEFSDLILNLITEIYK
HFPSFPADLQALLEDVEGSDIDNLT SQCSLFWRIIKKIPLAWSHLEKYFGSLGT EEEAVCLLLED PKIKL
NVLF LTHALQPLCDFQEIIDQGASVLQLLQDASKLLRLYTQSFLRPKAAEYFHRRGKTSLVQETVGHLPK
GEVAVGEQAADFLQQHSEELFDYLETFHSSII SFYTTVTVNIVKRLPLPDSTLRNLSLVLSPGKKLEVTG
KMQVQDLGVGFGVCIRPDNVSLLTDEFLEYQLIEGGDTGSVDQPT EKYWQTELKIMGNASNFGKLIVSLLA
LPKTLKKEIIFKQMFQQT DYLKMMRKEDCEEKDMMEDDVT DSSSYKSAPSHLSPETQGSSI SDVIDLTEM
DEIGPVEIEDIAPMDVDDIVSISSDSE TENQKVNVP HVSIVLDDDDDDDEMTDDDDDDYGEAGEVMWKY
SKNKGNTQNMETDNTYQGGFSVGLWPGLVQSWD SERPCGSMRKVIFFGNGMQTEVQADS
LLPFSS LAKCFCSNSFATVMAYKDAIFSS LQVASRRSRMFFSPESESKDELLRVMLNWAFFGGFEPLGADG
LQPQAEYSVKVKKGKRKNPTGKLFNLTVPLNKIPESLDLNNGLVDLGT TDADKKRLYSKWNGRSMQTVKI
RRKYKQRNKNI IPTVQIESRQNSQKRHQM VHEFLKNKRKIEDFCLSCGSM SVDI IHPLFEGKLC TNCKFN
FTETLYRYDE DGYQSYCTVCCSGMEVILCGHDS CCRSFCVDCLDILVCQGTFDQLKNVDPWTCYLCAPET
SSGALKPRHDWSIRVQEFFANDTGMEFEPHRVYPSIPAIQRRPIRVLSLFDGIATGYLVLRDLGFKVEKY
VASEIDEESITISMVNHDGKITQVDDVKNITKKHIEQWGPFDLLIGGSPCNDLSIVNPARKGLYEGTGRL
FFEY YRLLNVLPKEDDPQPFFWLFENVTFMQTHVKADICRFLECNPVLVDAVKVSPAHRARYFWGNIPG
MNRPIIASQNDKLCLQECLEPGRTAKYEKVRTITTRQNSLQKGTND AHFPVTMNGKDDHIWITELEKIFG
FPKHYTDVKSMGRPQRQ RVLGKSWSVPVIRHLLAPLKDYFACDEF PVK

>DNA methyltransferase 3 [Apis mellifera]

MLSEEGKLWVYWIGEARISLLNEKTQIEPFSCNLKARLTQNLNVP RIRAI DATMQMLRKKLG GTLT KPYF
TWIESNFPKNMIEMLDEIKFYPPVKMQQRLDHLREKNAKVTERYLLDQKRENQEKKLA EKSKDSPQKVN
VDLTL LPLKEQKPGIIAWAKIAGHNWWPAMIIDYRDCCMREPTFGCQWIMWYG DYKLSEVHHQLFLRFDK
GMEKMRD YTSNTKKHIYLVGV LQASKDYCSRLGFDTSNWTLD DAF EYFSKPNHYDYASSANTWRREDSVK
IYDKYSARIAEKLNELKDNPNVDDQ RANDINNSDDL RSAIKGEISFDSLCLKCLRVSNDEMDIHPFFEGS

LCKDCSERYKPCMFVFGNDSKCFYCTVCAASGMVVICDKEDCPRVYCTACMKHLLCPTTTEQVLQEDPWE
CFLCKSRSFSTTDTIVRPRANWKDKIINMFRTSCDSNVEHLVAKHNSEKRKIRVLSLFDGLGTGLLVLLKL
GFIVDAYYASEIDQDALMVTASHFGDRILQLGNVKDITCNTIKEIAPIDLLIGGSPCNDLSLANPARLGL
HDPRTGVLFFFEYRRILKLVRKLNNERHLFWLYENVASMPSEYRLEINKHLGQEPDVIDSADFSPQHRRLR
LYWHNFPIEPRLLSSQREQDVQDILTPHCQRYSLVKKIRTVTTKVNSLKQGDGKLALKPILMKDESDSLW
ITELEEIFGFPRHYTDVKNLSATKRQRLIGKSWSVQTLTAIFESLCPFFERDIVEIEG

>DNMT3 [Daphnia pulex]

MNSDSDDCYSDATYFCGSDDDDGDNFGVEADGLLLEKWIPPLFYLAAGHLQTIHNDVNKLENVCLACW
EKGTCPPHFFVFGALCQQCKQRLLRMTFSTVDGFHLYCTICGSKSNACVSCSNGKCYRKYCVNCLNIWTD
HSDKLIKNSDKWFCFLCLPEPNQILQAHNNWAQVLLFHEPLAVYASRALYWKRPRLRVLSLFDGIGTGL
VALRKLGIEVEVYYASEVLTAAATVSRTLRGGVLHHIGSVGEVTQQRLEEISPIHLLIGGSPCNDFSAIN
RFPKDFYDPRGYSRYFFDFVRVLNLMRKINGQHQLLWLFENVASMPQHYRETISRHLDCQPAVIDAKNF
SPQLRRRLFWGNIPGLFTVHEQQLTQDGESLSLEKSLMPNSGRRAAQEKIRTLTTNTNSLLQGRTECNDE
DDNLQTDVLWLQEIIEHVFGFLPRHFTDVGNMSTRDRQKLLGHAWSVPVIASIFSNLKAYTV

>DNA (cytosine-5)-methyltransferase 3B [Danio rerio]

MRKEEIKKSTEIVMPSNKYPESAESDKMTATAAMNRDTSVGDGLSENDGLEMTESENSPLTPAEPPSPFCP
KQNGGAASPADESVNSIRKRSRKRSDEEDSAWDSSYSEEKAEVSGGCETGLRQRPRTIFQAGLTAH
SKPRSRERGHSKEDHSDLVASVPEGPALELMEQDSKDSAQSSTTSTTTETASQPEYKDNKGFGIGELVW
GKIKGFSWWPGMVVTTWRATGRRQASHGMRWLQWFGDGKFSEVSADKLDSITAFPKFFNQSSYTKLASYRR
AIFQALEVASLRAEKTFFPSEADSLQVQVPMPLDWAHGGFLPKGQEGLPKPKENAECYCVFPLASESSTLLE
SSPPEFFPSAKRARLPLNKAAPGIEEVYSREQMVNEVLKNHRSIEEFCLSCGKTRVATFHPLFEGGLCLT
CKDAYLENSYMYDDDGYSYCTVCCGGREMLLCGNANCCRCICVDCLDILVGAGAANSARNLDPWRCYMC
QPLQQYGVLLKRRHDSLKLQEFFVNDSGQEFESPKIYPAPVPAEQRRPIRVLSLFDGIATGYLVLRDLGFK
VDLYIASEVCEDSISVGAVRHEGKIQYVHDVRNITRKNI AEWGPFD MVIGGSPCNDLSIVNPARKGLYEG
TGRLFFEFYRLLSEAKPKEGEDRPFFWMFENVVAMS VNDKRDISRFLECNPMIDAIEVSAHRARYFWG
NLPGMKRPLCASGMDKLELQDCLEHGRVAKFGKVRTITTRSNSIKQGKDQHFPVMMNGKEDILWCTELER
IFGFPVHYTDVSNMGRGARQKLLGRSWSVPVIRHLFAPLKDYFACE

>chromomethylase 3 [Arabidopsis thaliana]

MAPKRKRPA TKDDTTKSIPKPKRAPKRAKTVKEEPTVVEEGEKHVARFLDEPIPESEAKSTWPDYKP
IEVQPPKASSRKTKDDEKVEIIRARCHYRRAIVDERQIYELNDDAYVQSGEGKDPFICKIIEMFEGANG
KLYFTARWFYRPSDTVMKEFEILIKKKRVFFSEIQDTNELGLLEKKNILMIPLNENTKETIPATENCDF
FCDMNYFLPYDTFEAIQQETMMAISESSTISSDTDIREGAAAI SEIGEC SQETEGHKKATLLDLYSGCGA
MSTGLCMGAQLSGLNLVTKWAVDMNAHACKSLQHNHPETNVRNM TAEDFLFLKEWEKLCIHFSLRNSPN
SEEYANLHGLNNVEDNEDVSESENEDDGEVFTVDKIVGISFGVPKLLKRGYLYKVRWLNYYDDSHDTWE
PIEGLSNCRGKIEEFVKLGKSGILPLPGGVDVVC GGPPCQGISGHNFRNLLDPLEDQKNKQLLVYMN I

VEYLKPKFVLMENNVMDMLKMAKGYLARFAVGRLLQMNQVRNGMMAAGAYGLAQFRLRFFLWGALPSEII
PQFPLPTHDLVHRGNIVKEFQGNIVAYDEGHTVKLADKLLLDKVISDLPVANSEKRDEITYDKDPTTTF
QKFIRLRKDEASGSQSKSKSKKHVLYDHHPLNLNINDYERVCQVPRKGANFRDFPGVIVGPGNVVKLEE
GKERVKLESGKTLVPDYALTYVDGKSCPKFGRLLWDEIVPTVVTRAEPHNQVIIHPEQNRVLSIRENARL
QGFPDDYKLFGPPKQKYIQVGNNAVAVPAKALGYALGTAFQGLAVGKDPLLTLPFGFAFMKPTLPSELA

>DNA (cytosine-5)-methyltransferase CMT3 [Malus domestica]
MNXVVNHSYDQFLKPFLSILMAKTIQLLKVFIISPDDHNRXCEQDLEAAMQQVADKTNSIGLALLPVQIH
SXHLPVIFYFLGLSVLLAFTCILFHRLLRPFSPSPLSLCAVRRMACKRKAKAGTSSGSPPESSKKLRXTEE
ARVEEEVATTVDKAASPPRNPVTQEVAAADDDGEEARFLGEPMEDEEARKQYPKRYVGKKPKMNGQNNNSN
DDEDIIQARCHYTKALVDGINYDLYDDAHSGEKEEPIICKIVEMFEAIGLLYFTAQWYYRSRDTVIKHC
TTVACGRVFFSDVRDDNPLNCLVEKLHIVRLTLNVEDDLKSKSIPVCNYYCDTKYLLPYSTFVNLXAENM
QTGSDDSTISVEDDVCLDSEVDSKLPNGERAKSEVRLLDLYSGCCAMSTGLCLGAHLANVNLVTRWAVDY
NKYACKSLAQNHPETEVRNEAAEDFLTMLKAWRKLKCMCLKLVENNDNEEDVDKSILDFFGKEDDEEEED
EEEEEDVSGNVKNDSEVFEVDCVIGVCFGDPKKTEKKGIYFKIHWKGYGPXEDTWEPMNELEHCKQAIKKF
ITEGYRLKKLPLPGDQVDDVCGGPPCQGVSGFNFRNTESPLADDKNQQLLEVYMDIVRYLXPKFVLMENVV
DILKFADGFLGRYALGRLVDMNYQVRMGMAAGAYGLPQFRMRVFLWGARPTEILPQYPLPTHDVVSRGV
TPTQFEGNAVAYDEGHQTQLGKSLFLDDAISDLPVANNEERDEMPYGVAPKTEFQRLIRLSKEYLMGTS
KDNSIQNVLYDHRPLQLNPDDYARVCEVPRKRGACFRDLPGVRVRGDNKVEWDPEVPRVYLASGKPLIPD
YAMSFVNGSSSKPFARLWDETVPTVVTRAEPHNQAIIMHPEQDRVLTIRENARLQGFDFYKLSGPIKER
YMQVGNNAVAVPVARALGYALGLALKGSAGADPLFXLPANFPNLQDQCTVHTSFHQSNYIKAFCTLCTLHYL
LMASASRSSXWLFSLSENWLPMTIIFACGFVGYAVYDAVMATVSELLQRLLVISPLLIVIVVHVLSTGS
QVNISIPGSEPGAHRAGGSPWGVAFVLFLFLFLISYQPSLHGLLF

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VRVEVPDALFVIPQSFYEPFEPGVPIIDREYKVVAQLLEAAIQEGQDADDIEFELNDFAIYSKRPRYEHEMCSLHHLDTK
SGHSNLYFDGKLVGDAFFVRHVPICALPIGDYGTLSKHTLRDQIWWQSAMNLKKNIIYRLNRPKEYRRFFDPFLWVA
DLAKHFVDYLVKVMGENKQDVTIFHFRSTFSNWLAKTHNTDPVFASWREQHPSADFRSIVANLAFLHKEAIGVLDYAGTY
HHTLWAETWEFRQYERLTKTKEKDKEARSKPPRSASRTPSSADQVDCDQGNATDVPQTIVTQYIYDCFNHLPFGDILEA
MSLSDETELLRNELIQKRHLELPAPLHQNAKNVSTAGQQQIKDIQPGDTISTQRDGDGSGTKWRRDLSHGFNDVDRWLAL
VQVRVRSKKGVRAFDVIWYYRPVDTLCALMKYPWNNELFLSDHCSCDEPSKISEDEIMGVHEVEFEGTSNTEAEFFCRQT
YVVTERRKWITLKLHLHLHQRKTTQAPLYQPGETRLIMLDKASGRSEPCFIFITFYDEEDGTGIYRFRLLRRHQVDPQTP
NAQPNELVYSENIEVKNNRILEPCYVRRFFKAQETIPTPYDRDGVGNFFYITHEEVIDAETTAKSYLPLEALPSSLRQGH
NPSEPLQKLRLGLDLFCGGGNFGRGLEDGGGIEMRWANDYDGKALHTYMANTSGPDVAVHPFLGSIDDMQRFAIQGKFAENV
PPVGDVDFISGGSPCPGFSLLTNDKTTVAQRKNQSLVAAFSGFIDLRYPRYGLLENVPGIIQSKATRDQDVFSQLICAIV
GLGYQTQFSFLDASSCGSPQRRSRVVFVFAAPGHHLRQRPHTHAHPEHTRNYGLGSTPTGDPMAERIMPIATPFDVSA

RAATAGLPPVYDSKPDICVSYPDHRVSIGMTSNLRNKISLIPTRPWGMNFAQAWFGLDCKQAGSGVLSPADRLVFPEEGK
TSLTRGGATSNAYGRQRPDRLIETIVTSQSPSDAKNGRTIHWSENRVLTIMEARRAQGFRDHEVLLGNPADQWKIVGNSV
AREVAVSLGAVFREAWAQLADEHHAESDVGVAATTARGSSKAPVREGVEVSPMSVDKPTFESASSNKTPRSRKSRSQS
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GELHLEKIQILNTTVQKDSFIRVRKFLFGKYHVKFVLVKTIVIRCLSTNTIKIRGIPFIKASEAYSKPHGMPNEVCMIIY
QDEAKHQEFVDINLSDILQLHHLGSRKRQVEEAFIRIHSSEADTQSKVSDEVLRKRWRGKTNKGGSWIPSNVSNPIDLES
DAEDNKNRLDGQRYTMFDSCSGAGGVSRGALMAGFKIQYAIIDKAPEVWETYEYTNFPDTELFRMPLDEFIAEPNVGHRVD
ILHFSPPCQFFSPAHTHASVHDDDNIAALFGCNELLQKLRPRVVTVEQTFGLTHDRHGDYFNGLLDFTQWNYSFRWKVV
KLCTWGAAQDRKRLIIVAAAPGERLPPFPKATHGDEPGLLPYNTIGKALRGIQLEDDLHDPDKVHHFNPPRAPYDPERLA
GTITTRGGDLIYPDGSRKLTTLREFASLQGFPRWHLFLGNITSIKRQIGNAFPPVTVRVLYKHIEQWLLKEDGMTPCDDRN
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Figure. S2

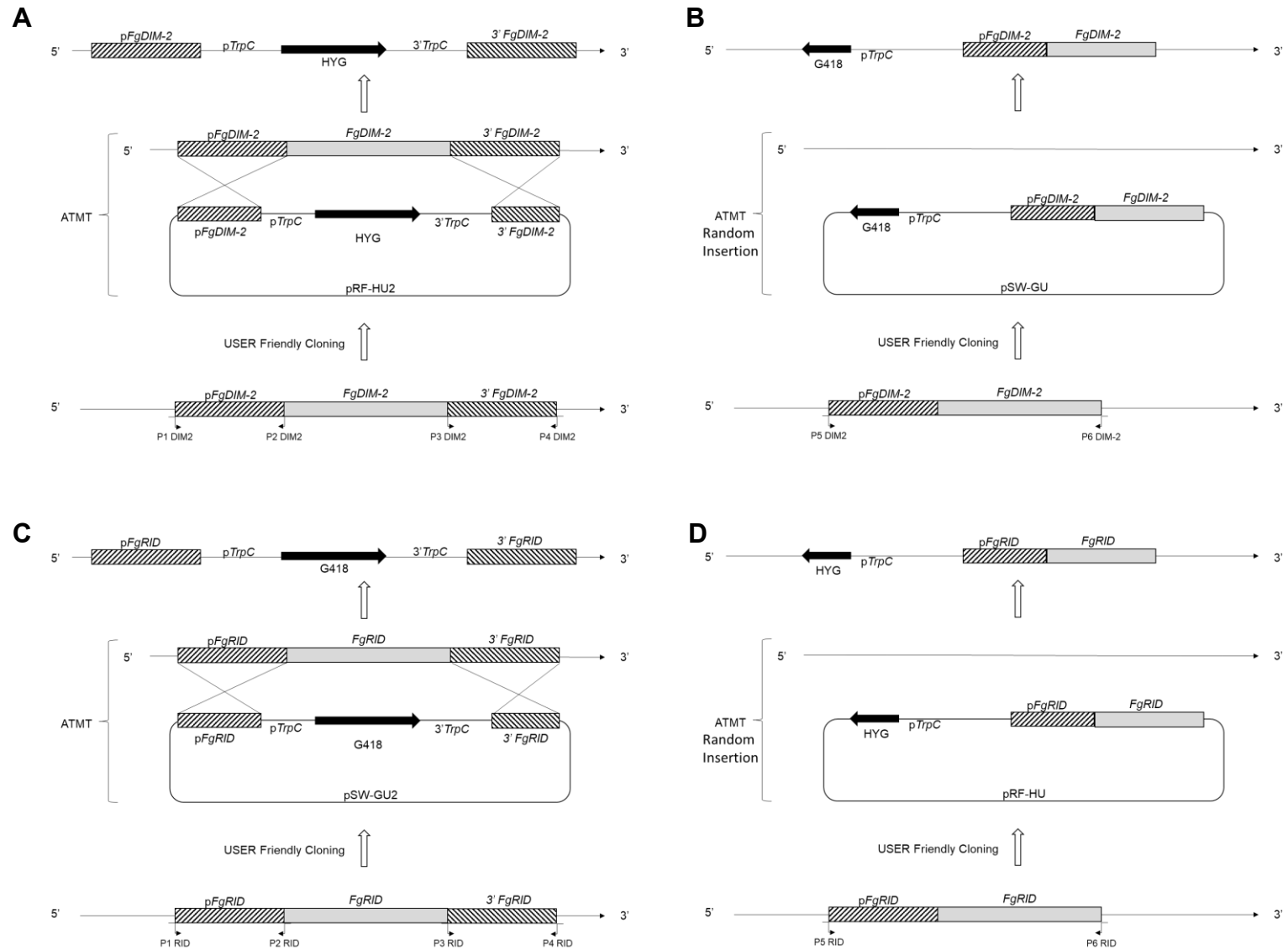


Figure S3

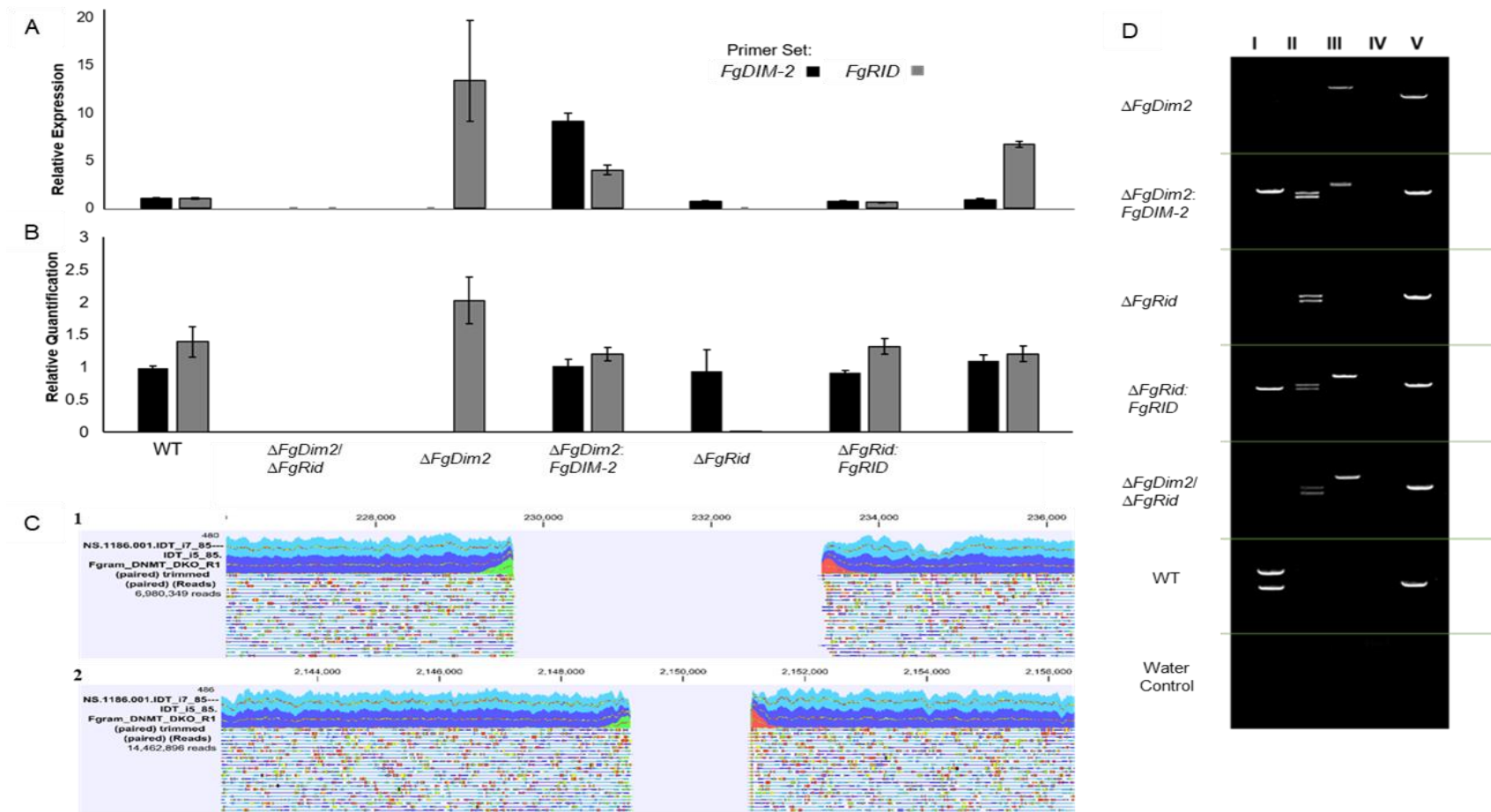


Figure S4



Figure. S5

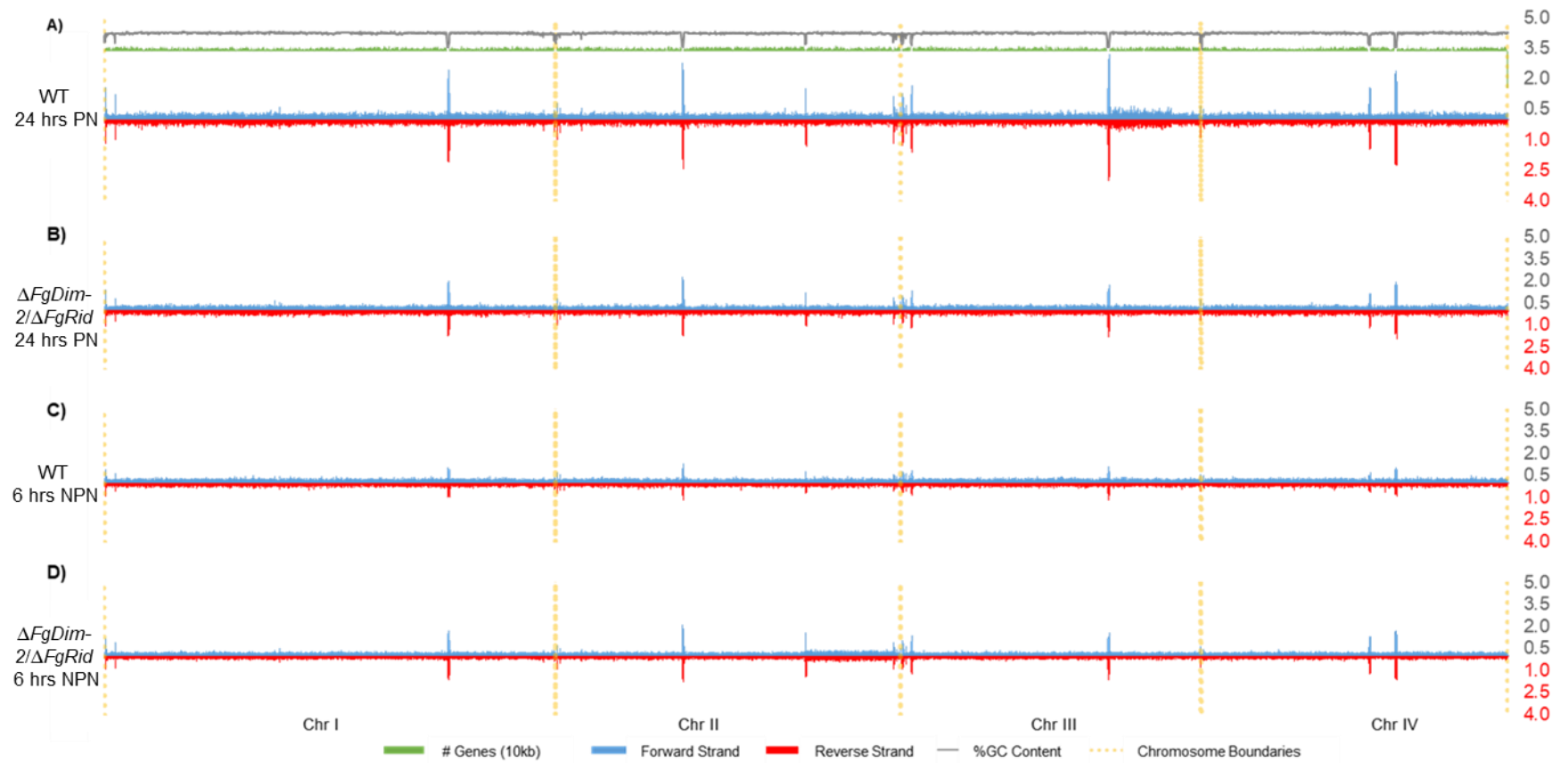


Figure S6

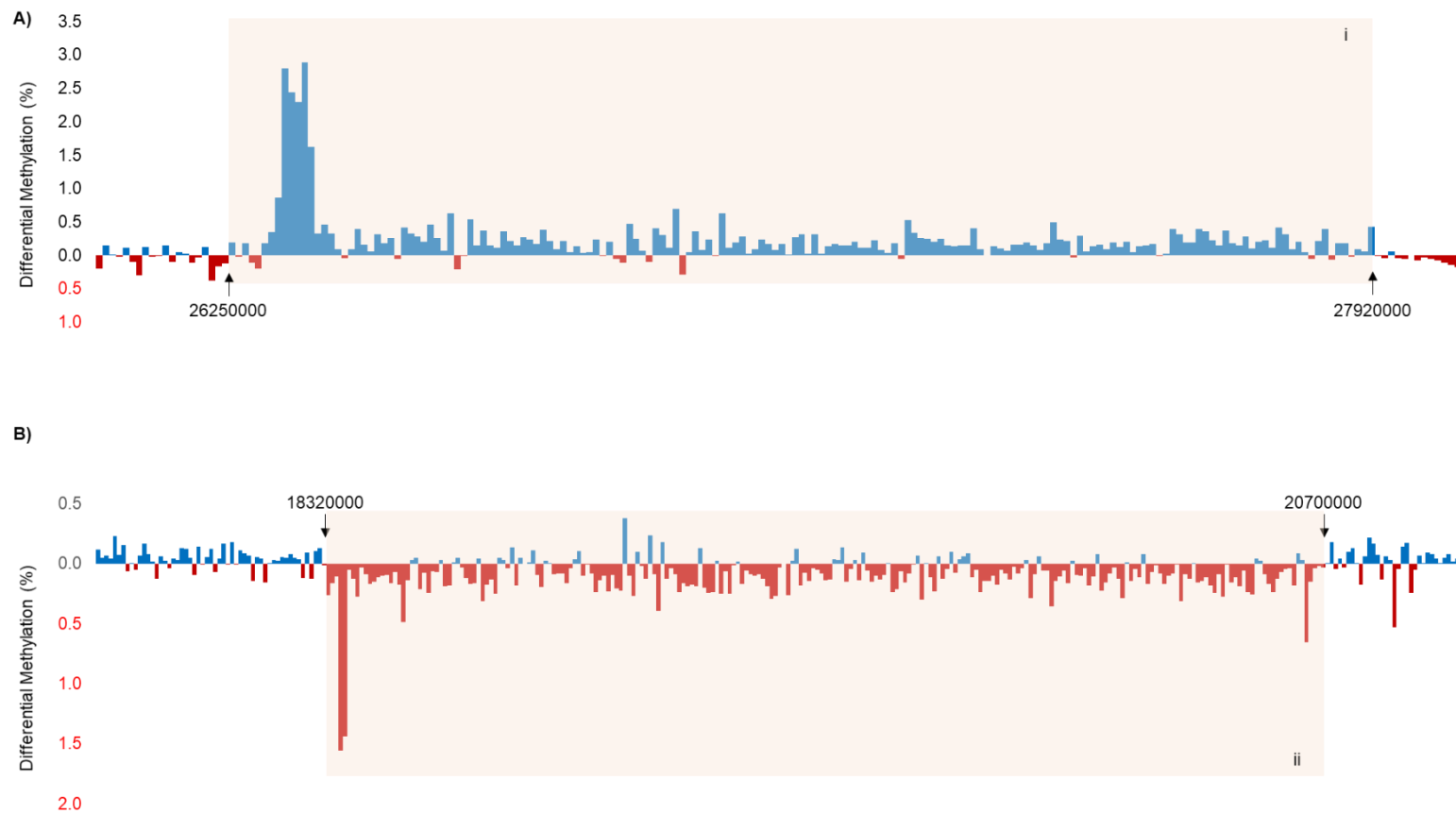


Figure. S7

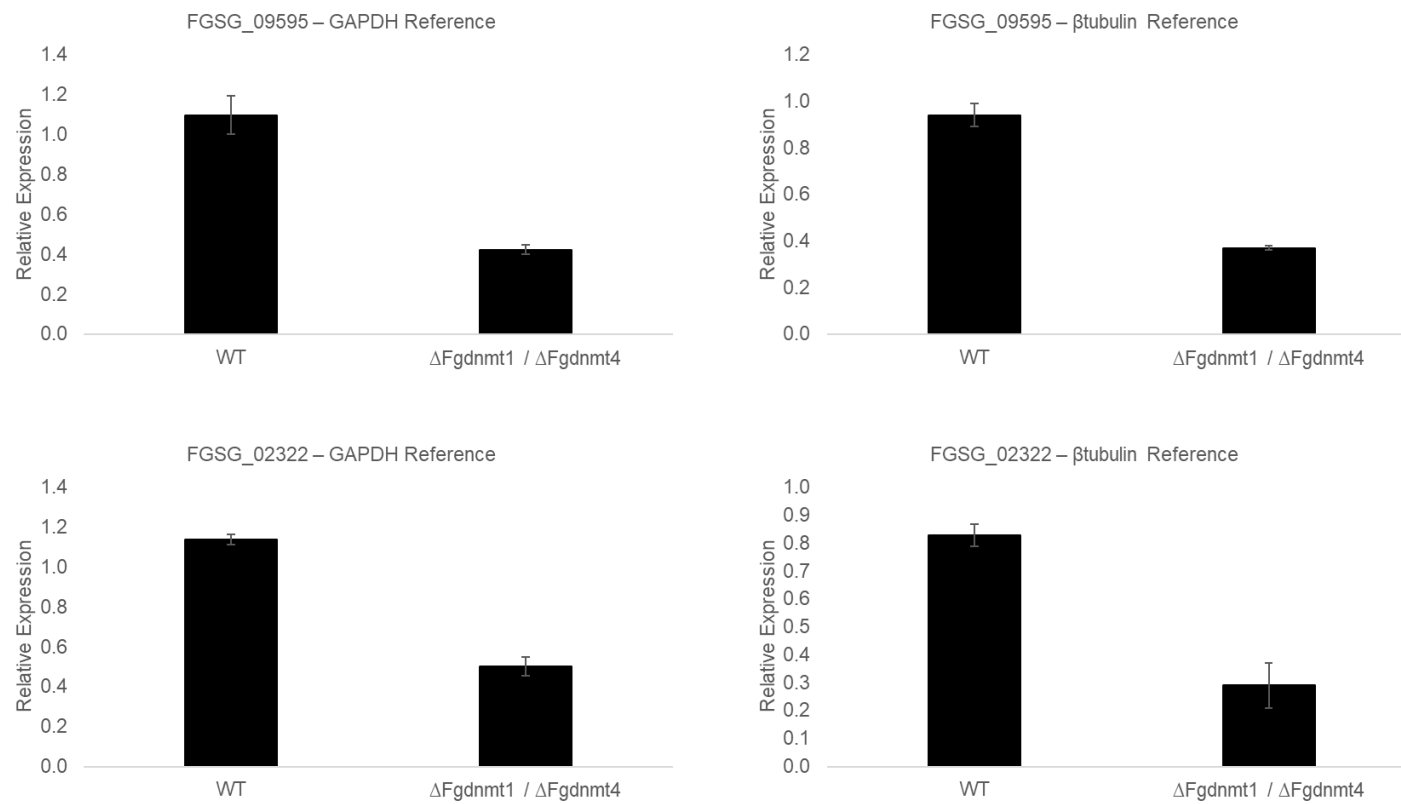
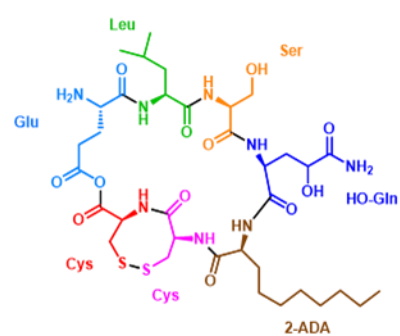
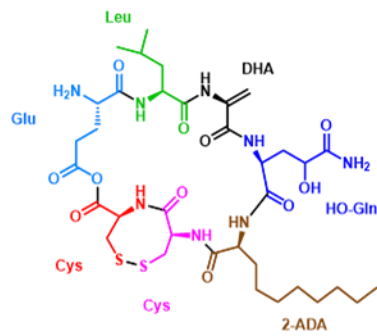


Figure. S8



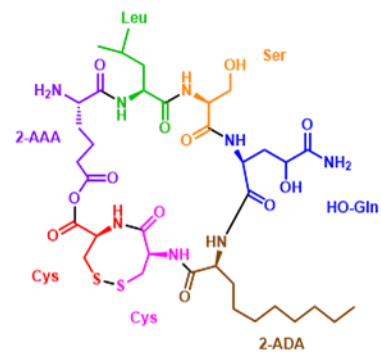
Gramillin A

Chemical Formula: $C_{35}H_{58}N_8O_{12}S_2$
Exact Mass: 846.3616



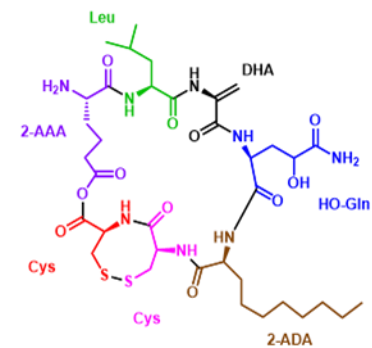
Gramillin E

Chemical Formula: $C_{35}H_{56}N_8O_{11}S_2$
Exact Mass: 828.3510



Gramillin B

Chemical Formula: $C_{36}H_{60}N_8O_{12}S_2$
Exact Mass: 860.3772



Gramillin F

Chemical Formula: $C_{36}H_{58}N_8O_{11}S_2$
Exact Mass: 842.3666