D _ 2-____ ıa _ fi ____ ıa _ fi ____

G ∜ Raolola ^{a,1},Pa aM.G* aolo^{b,1},N∜ O a^c,Mac∜ R aol Fa aWWay⊊¹,Ma * Ra WWAy, Ma .∡4# Sc.≁4#t∜^a,W R∜i^{c,·},G∜ J.Ha ^{b,,⊿#},aolFa L ^{a,2}

 t at attr t nga at c r a ta r c b tw D t1/3- t a D t2- t t \ .

Results

Whole-Genome Bisulfite Sequencing of Three Independent Dnmt2-Only Models. W tgat D t2- tDNA t \at tr t ':(i)S. mansoni, (ii)D. melanogaster, a (iii) a tr \ c t(TKO) br c t c \|\, w c fic t rD tl, D t3a, a D t3b b t a r ta a tact Dnmt2g (28). A\ a \ w r bta r t a tra a \ ta tag t atwr rr. t (Tat 1). F rt r r, D t2 act t wa c fir b t \at a d tRNA^A, w c w g \ t \ t \ at r t tat C38 tang t t d \ tr a \ (Fg. S1). W t w \ g b \ fit c g t c r-\ a d g cDNA t \ at attr d \ tr 1. A tr b \ fit a at, DNA \ brar wr rar a b ct t ar - 1\ a c g. R a ar wr b d a t t c rr g r r c g BSMAP 2.0 (29). T r \ t a rag tra cficg c rag 13× r Schistosoma, 32× r Drosophila, a 1× r TKO c\\ (Tat 1). T c r rat a ct r wa >98.0% d\ ca (Tat 1), w c gg t t atb \ fit a at a b fic t a t at t c r at c \ b r t \ at ad .

Methylome of S. a

cr.HarDNA wtbg\t\at (32) at - DNA a\t r a a rtat tractr\.

rta t t r a c tr1. A ta a a t Drosophila ata w t at t a t a rt (99.7%) ct r a ar c 1 t1t a (rat <0.1), w r a 10.003% w a c r rat >0.5 (Fg. 2A). T trb t wa bta ta r t rt - a r DNA, w c w c 1 t t a (rat >0.9) r 4.3% t c t r t at w r a d (Fg. 2A). Pr c r c b tw t Drosophila a t c tr1 a 1 w r d t cta r t ct r d t c t t c rt ct r . I t Drosophila ata t, 11%t c rt ct r wr C G d t (Fg. 2B). T trb t tr g c trat t c tr1 a 1, w c w a g gr (98%) C G c fict (Fg. 2B). F d1, w d r ata ra ta a

a r! a tDNA t at attr rad , ww trrtt r t at ar a b g cd art act. T c r at r w g b fit c g ata t d w a t d d t c tr t r g ata a d a r t t t ficat d t wt g r t t (25). A , w g b fit c g r t c b ta t w r PCR a ficat c d t a c - c fic b fit

a c ta a c c rt c t r (Fg. 4B). N tab, a b ta ta ract w w w t r t a tw c rt c t r w -t br a w fic t c r Dnmt2 ta t br (Fg. 4C). T rg w r t c aract r b a c CG c t ta a w ba c 1 t, w c w r r t r a t r t t at rat r c t b fit c r t . T r t rt r ang aga t DNA t at Drosophila br a r a t a rt r t t t at D t2- 1 ng a a c DNA t at.

Discussion

T DNA t at tat Dnmt2- ga a b ac tr r at c r a gt . T a b r at t t act t at t r rt t at l wr t d t t t ct l t t ar t t at wr r DNA t at a d (22). T r l r c r at gra c a d (23, 36, 37) a d a b a ct b c ta at wt t at DNA r t r nga , d g bact r a. S at , l g cd t ct a r ac 5- t l c t Drosophila br (38) c l a b act b w a t b c fict. A , a r b h fit c g a d wr t t l at c r c at c a D t2 (11) r t a t "t ar act t," . . a w at c act t wt r a b trat c fict, DNA b trat. T tar act t c b r b r d rr d a t g DNA t l at a g t b c cr a r c rta rtd c t (8, 38). H w r, b ca w c l t t ct Accession Numbers. ् (1 (D. melanogaster <u>,</u>((S. mansoni) 2 1 ् (੍ਰ() (

ACKNOWLEDGMENTS.)) چچ `(`(`(ْ(

- , (<u>(</u>.
- ' ″ ' 1-1 Annu Rev Biochem
- 7(1) Nat Rev Genet 11 ()? 22 **,**(, (
- (1 (fi
- Nucleic Acids Res2 7()
- ۲) 2 ()
- 2 Science 11 () _ , **(**1) Genes Dev2 (1)1
- 2 7 (() 11 RNA1 ()1 R . 2
- fi
- , 1
)

 J Mol Biol
 ()

 J Mol Biol
 ()

 2

 , 2
 11)

 Prog Mol Biol Transl Sci1
 12

 4
 7
- 2 PLoS ONE (1)2 1 2 PLoS ONE (1)2 1 3 1), Curr BioR (1) 1
- , (

