

A

Transposase derived domain alignment

hPGBD1 457 MRCVFGVLLSGFMHRPREMYEWSDDQNLVRDAIRDRFELIFSNLHFADNGHLDQK
M CVFGVLL SGF+ HPR MYWE+SD+DQ LVR+AIRDRFELIFS LHFA N HL QK
rPgbdl 1 MNCVFGVLLSGFVHPRMGMYWEISDSQTLVRNAIRDRFELIFS LHFAGNSHLHQK

hPGBD1 517 DKFTKLRLPLIKMKNKFLLYAP-LEEYYCFDKSMCECFDSQFLNGKPIRIGYKIWCOTT
DKF+ LRPLIKMKNKFLLYAP LEEYYCFDKSMCECFDSQFLNGKPIRIGYKIWCOTT
rPgbdl 61 DKFSILRLPLIKMKNKFLLYAPLEEYYCFDKSMCECFDSQFLNGKPIRIGYKIWCOTT

hPGBD1 576 TQGYLVWFEPYQESTMKVDEDPLDGLGGLNLMNFADVLLERGOYPYHLCSFSTSVKL
TQGYLVWFEPYQES S ++ D++ DLGLGGLNLM++FADVLL+G YPYHLCSFSTSVKL
rPgbdl 121 TQGYLVWFEPYQESAVETDKELDLGLGGLNLMNFADVLLERGOYPYHLCSFSTSVKL

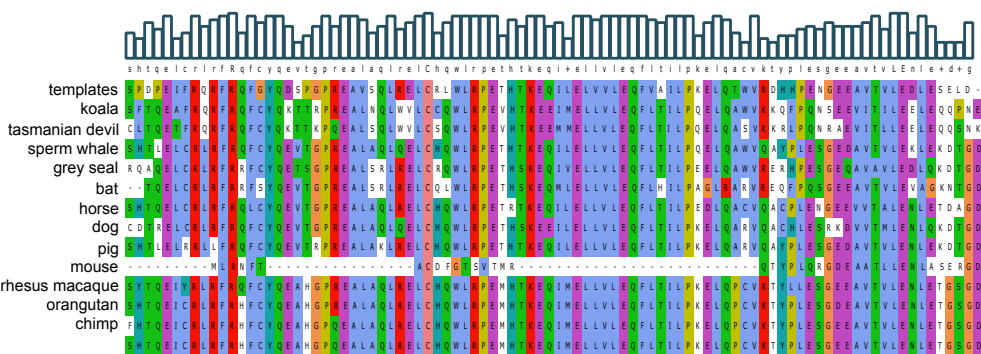
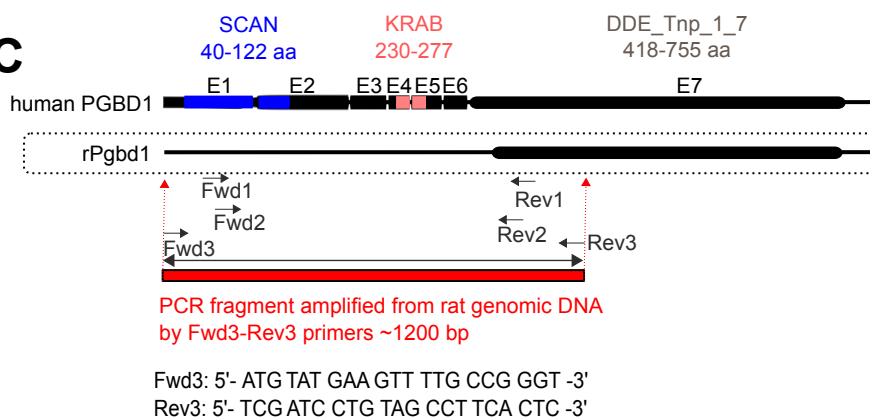
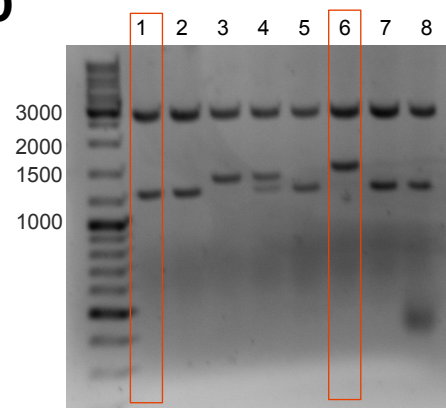
hPGBD1 636 LSALKKKGVATGTIRENRTEKCPIMNVEHMKMKRGYFDFRIEENNEILCRWYGDGII
+SALKKKGVATG+IRENR EKCPIMNVEHMKMKRGYF+FR+EEN+EI L W+GD I
rPgbdl 181 MSALKKKGVATGSIENRMEKCPIMNVEHMKMKRGYFDFRIEENNEILCRWYGDGII

hPGBD1 696 SLCSNAVGIIEPVNEVSCDADNEEIPQISQPSIVKVDCEKGVAQMDSIKYVRVIRS
SLCSNAVGIIEPVNEVSCDADNEEIPQISQPSIVKVDCEKGVAQMDSIKYVRVIRS
rPgbdl 241 SLCSNAVGIIEPVNEVSCDADNEEIPQISQPSIVKVDCEKGVAQMDSIKYVRVIRS

hPGBD1 756 KKWYSILVSYMIDVAMNNAWLHRCRACNPGASLDPLDFRRFVAHFYLEHNAHLS Stop
KK LVSYMI+VAMNNAWLHRCRACNPGASLDPLDFRRFVAHFYLEHNAHLS
rPgbdl 300 KKRSLGLVSYMINVAMNNAWLHRCRACNPGASLDPLDFRRFVAHFYLEHNAHLS Stop

B

SCAN domain alignment

**C****D****E**

PCR product 1

C I F Stop _ F R G R G R Q Stop P Stop G A A Stop E K A K G I Q H A Stop E E L
D E K R H Stop A Q L S K L V S T G F W T F E S Q K Stop E V K P S R A L Stop I I F
I F Stop Stop N I Q L N Stop I Q Stop N Q Stop F N E T N N Y A S Q K N V N L E V
E V T L Q E M W C V F G V L L W S G F V M H P R M G M Y W E I S D S D Q T L V R N
R N A I R R D R F E L I F S Y L H F A G N S H L H Q K D K F S I L R P L I K Q M N
M N K N F L L Y A P R L E E Y Y C F D K S M C E C F D S D Q F L N G K P L R I G Y
G Y K I W C G T T T Q G Y L V W F E P Y Q E Y S A V E T D K E L D L G L G N L I
L I M S F A D V L L E K G H Y P Y H L C F E S F F T T L N X M S A L K K K G V K A
K A T G S I R E N R M E K C P L M N V E H M K K M K R G H F N F R V E E N D E
I F L F H W H G D S F I S L C S N A V G I E P V S E I S C V A N G K A S P Q V
S Q P S I V N L Y E K C R K G V A K M D Q I I S R Y R V G L R S K K R S L G L V S
V S Y M I N V A M N N A W Q L H R I C N P G S P L D L L G F W K C V A C F Y L
G H D I N L S D Stop

PCR product 6

Stop _ F R G R G R Q Stop P Stop G A A Stop E K A K G I Q H A Stop E E L D E K
K H Stop A Q L S K L V S T G F W T F E S Q K Stop E V K P S R A L Stop I I F
Stop Stop N I Q L N Stop I Q Stop N Q Stop F N E T N N Y A S Q K N V N L E V
T L Q E M W C V F G V L L W S G F V M H P R M G M Y W E I S D S D Q T L V R N
A I R R D R F E L I F S Y L H F A G N S H L H Q K D K F S I L R P L I K Q M N
K N F L L Y A P R L E E Y Y C F D K S M C E C F D S D Q F L N G K P L R I G Y
K I W C G T T T Q G Y L V W F E P Y Q E Y S A V E T D K E L D L G L G N L I
M S F A D V L L E K G H Y P Y H L C F E S F F T T L N X M S A L K K K G V K A
T G S I R E N R M E K C P L M N V E H M K K M K R G H F N F R V E E N D E
L F H W H G D S F I S L C S N A V G I E P V S E I S C V A N G K A S P Q V
P S I V N L Y E K C R K G V A K M D Q I I S R Y R V G L R S K K R S L G L V S
Y M I N V A M N N A W Q L H R I C N P G S P L D L L G F W K C V A C F Y L G H
D I N L S D Stop

Amplified PCR fragments cloned into pJET1.2 vector
The plasmids were digested by BglII enzyme

F

KRAB domain alignment

