Alignment	Model	Codeml parameters and hypothesis
PIP5K1A-derived region	Branch	*(((((((((human,chimp),gorilla),pongo#1),gibbon), (human_p,chimp_p)),rhesus_p),dog_p),opossum_p);* *df=1* *fix_omega = 1* *omega = 1* whether orangutan branch has an omega different from 1 *p=0.020*
PSMD4-derived region	Branch	*(((((((human#2,chimp#2)#1,pongo#2)#1,gibbon)#1, (((human_p,chimp_p),pongo_p),gibbon_p)),rhesus_p) ,dog_p),opossum_p)* *df=1* whether PSMD4-derived region has two sets of omega for the internal branch and external branch, respectively *p=0.026*
PSMD4-derived region	Branch	*(((((((human,chimp),pongo#1),gibbon), (((human_p,chimp_p),pongo_p),gibbon_p)),rhesus_p) ,dog_p),opossum_p)* *fix_omega = 1* *omega = 1* *df=1* whether orangutan branch has an omega different from 1 *p=0.10*
PSMD4-derived region	Branch	*(((((((human,chimp)#1,pongo),gibbon), (((human_p,chimp_p),pongo_p),gibbon_p)),rhesus_p) ,dog_p),opossum_p)* *fix_omega = 1* *omega = 1* *df=1* whether human/chimp ancestral branch has an omega different from 1 *p=0.033*
PSMD4-derived region	Branch	*(((((human,chimp)#1 , (((human_p,chimp_p),pongo_p),gibbon_p)),rhesus_p) ,dog_p),opossum_p)* *fix_omega = 1* *omega = 1* *df=1* whether human/chimp ancestral branch has an omega different from 1 *p=0.043*

Alignment	Model	Codeml parameters and hypothesis
PSMD4-derived region	Branch-site	*(((((((human,chimp)#1,pongo),gibbon), (((human_p,chimp_p),pongo_p),gibbon_p)),rhesus_p) ,dog_p),opossum_p)* *model = 2* *NSsites = 2*