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SUPPLEMENTARY MATERIAL

corresponding to:

**Dynamic expression pattern of distinct genes in the presomitic
and somitic mesoderm during *Xenopus* development**

AUDREY BOURDELAS, HONG-YAN LI, CLÉMENTCE CARRON and DE-LI SHI

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1 - M S E K E S - C T Y E E Y K Q T S D W L L S K T K H R P I V A I V C G S G L G G L G E L L K D Q Q Xenopus
1 M F P E S N T G Y S F E D C Q A T A D W L L S Q T A V R R P L V G I V C G S G L G G L A D A L K D Q Q Zebrafish
1 - - - M E N E F T Y E D Y E T T A K W L L Q H T E Y R P Q V A V I C G S G L G G L T A H L K E A Q Mouse
1 - - - M E N G Y T Y E D Y K N T A E W L L S H T K H R P Q V A I I C G S G L G G L T D K L T Q A Q Human

49 A F N Y C D I P N F P K S T V P G H A G R L I F G N L S G K P C V C M Q G R F H F Y E G Y P L W K V Xenopus
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47 I F D Y N E I P N F P Q S T V H G H A G R L V F G T L N G R C C V M M Q G R F H M Y E G Y P L S K V Mouse
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97 T F P V R V F H L L G V E T L V V T N A A G C L N P N F E V G D I M L I R D H I N L P G F C G Q N P Mouse
97 T F P V R V F H L L G V D T L V V T N A A G G L N P K F E V G D I M L I R D H I N L P G F S G Q N P Human

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151 L A G H N D E R F G V R F P C M S D A Y D R E L Q Q K M A L D V G S E L G F S D F L R E G V Y C V M L G Zebrafish
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247 M D Y E N L E K A N H M E V L D A G K A A A Q T L E R F V S I L M E S I P L P D R G S Mouse
247 M D Y E S L E K A N H E E V L A A G K Q A A Q K L E Q F V S I L M A S I P L P D K A S Human

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Supplementary Fig. S1. Sequence alignment of purine nucleoside phosphorylase protein in Xenopus (NP_001079809), zebrafish (XP_001331743), mouse (NP_038660) and human (NP_000261).

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1 M D Y T A S C L I F L F I A A G T V F G T D H R L I G D L F A N Y N K V V R P V E T Y K D Q V V Xenopus
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1 M E L S C R V L L L I - F S A A G P A L C Y E H E T R L V A K D L F R E Y S K V V R P V E N H R D A V V Chick
1 M E L S T V L L L L G L S A G L V L G S E H E T R L V A K L F E D Y S S V V R P V E D H R Q V V Q Mouse
1 M E F W P L L L L F S L C S A G L V L G S E H E T R L V A K L F K D Y S S V V R P V E D H R Q V V E Human

51 V T V G L Q L I Q L I N V D E V N Q I V S T N I R L K Q Q W R D V N L K W D P A K Y G G V K K I R I Xenopus
51 V T V G L Q L I Q L I S V D E V N Q I V T S N I R L K Q Q W R D V H L Q W N P D D Y G G I R K I R I Zebrafish
50 V T V G L Q L I Q L I N V D E V N Q I V T T N V R L K Q Q W T I D I N L K W N P D D Y G G V K K I R I Chick
51 V T V G L Q L I Q L I N V D E V N Q I V T T N V R L K Q Q W D Y N L K W N P D D Y G G V K K I H I Mouse
51 V T V G L Q L I Q L I N V D E V N Q I V T T N V R L K Q Q W D Y N L K W N P D D Y G G V K K I H I Human

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101 P S T D L W K P D L V L Y N N A D G D F A I V H E T K V L L E H T G M I T W T P P A I F K S Y C E I Zebrafish
100 P S D I W R P D L V L Y N N A D G D F A I V K Y T T K V L L E H T G K I T W T P P A I F K S Y C E I Chick
101 P S E K I W R P D V L V L Y N N A D G D F A I V K F T K V L L D Y T G H I T W T P P A I F K S Y C E I Mouse
101 P S E K I W R P D L V L Y N N A D G D F A I V K F T K V L L Q Y T G H I T W T P P A I F K S Y C E I Human

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151 V V L H F P F D L Q N C S M K L G T W T Y D G N L V I I N P D S D R P D L S N F M E S G E W V M K D Zebrafish
150 V T Y F P F D Q Q N C S M K L G T W T Y D G T M V V I N P E S D R P D L S N F M E S G E W V M K D Chick
151 V T H F P F D E Q N C S M K L G T W T Y D G S V V A I N P E S D Q P D L S N F M E S G E W V I K E Mouse
151 V T H F P F D E Q N C S M K L G T W T Y D G S V V A I N P E S D Q P D L S N F M E S G E W V I K E Human

201 Y R C W K H W V Y Y T C C P D K P Y L D I T Y H F V L Q R L P L Y F I V N V I I P C L L F S F L T G Xenopus
201 Y R S W K H W V Y Y A C C P D T P Y L D I T Y H F L L R L R L P L Y F I V N V I I P C M L L F S F L T G Zebrafish
200 Y R G W K H W V Y Y A C C P D T P Y L D I T Y H F L M Q R L P L Y F I V N V I I P C L L F S F L T G Chick
201 A R G W K H W V F Y S C C P T T P Y L D I T Y H F V M Q R L P L Y F I V N V I I P C L L F S F L T G Mouse
201 S R G W K H S V T Y S C C P D T P Y L D I T Y H F V M Q R L P L Y F I V N V I I P C L L F S F L T G Human

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251 L V F Y L P T D S G E K M T L S I S V L L S L T V F L L V I V E L I P S T S S A V P L I G K Y M L F Zebrafish
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300 T M V F V I A S I I I T V I V I N T H H R S P S T H I M P E W U R K I F I D T I P N I M F F S T M K Chick
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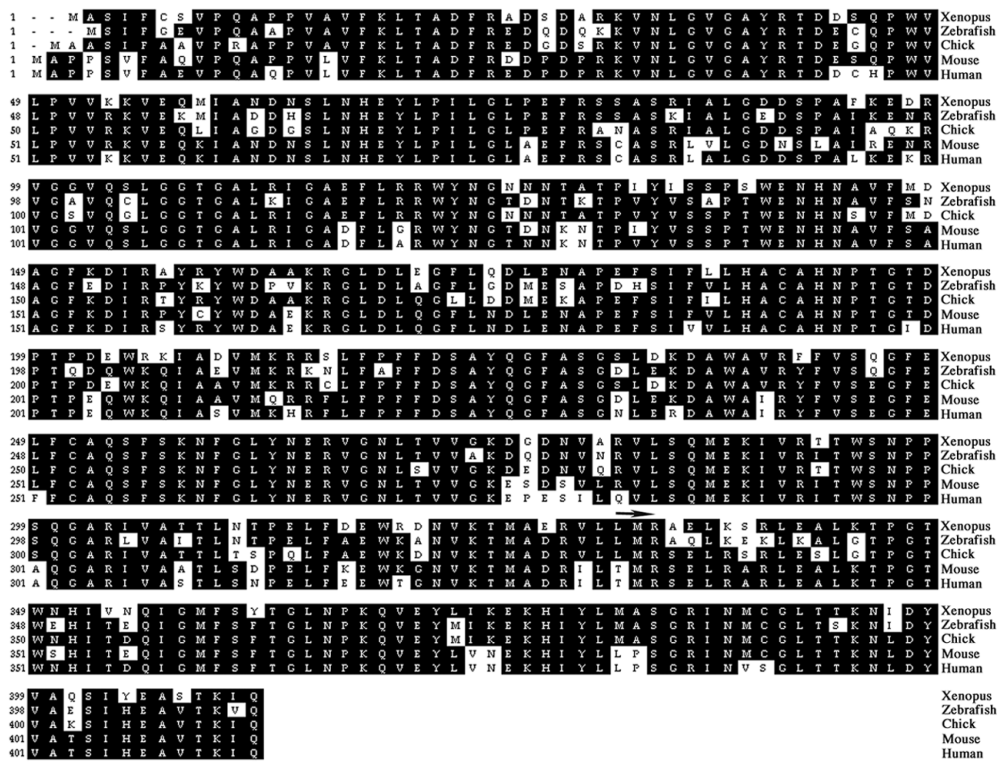
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351 R P S Q E R Q E K R L F P A D F D I S H I S G K P M P A S V T Y H S P I T K N P D V R S A I E G I V K Zebrafish
350 R P S R D K P D K K I F A E D I D I S E I S G K Q G P P V P V N F Y S P L I T K N P D V K N A I E G I K Chick
351 R P S R D K Q E K R I F T E D I D I S D I S G K P G P P P M G F H S P L I K H P E V K S A I E G I V K Mouse
351 R P S R E K Q D K K I F T E D I D I S D I S G K P G P P P M G F H S P L I K H P E V K S A I E G I K Human

401 Y I A E T M K S D Q E S N K A S E E W K F V A M V L D H I L L A V F M T V C V I G T L A V F A G R I Xenopus
401 Y I A D T M K S D E E S N N A A E E W K F V A M V L D H I L L C V F M A V A C I I G T L G V F A G R L Zebrafish
400 Y I A E T M K S D Q E S S N A A D E W K F V A M V L D H I L L V I F M L V C I I G T L A V F A G R L Chick
401 Y I A E T M K S D Q E S N N A A E E W K Y V A M V L D H I L L G V F M L V C I I G T L A V F A G R L Mouse
401 Y I A E T M K S D Q E S N N A A A E W K Y V A M V M D H I L L G V F M L V C I I G T L A V F A G R L Human

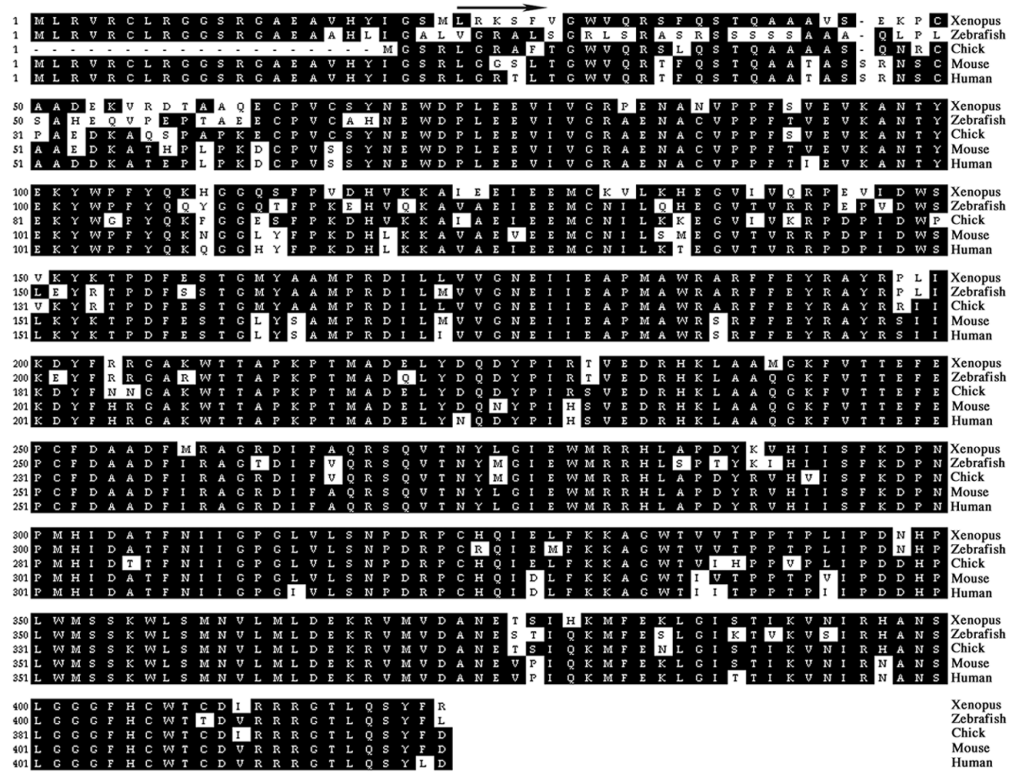
451 I E M N M Q E Xenopus
451 I E L S M L Zebrafish
450 I E L N Q Q C Chick
451 I E L H Q Q C Mouse
451 I E L N Q Q C Human

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Supplementary Fig. S2. Sequence alignment of acetylcholine receptor $\alpha 1a$ protein in Xenopus (NP_001085869), zebrafish (NP_571520), chick (NP_990147), mouse (NP_031415) and human (NP_000070). The arrow indicates the beginning of the probe used for in situ hybridization.



Supplementary Fig. S3. Sequence alignment of aspartate aminotransferase protein in *Xenopus* (NP_001080543), *zebrafish* (NP_998222), *chick* (NP_990652), *mouse* (NP_034454) and *human* (NP_002070). The arrow indicates the beginning of the probe used for in situ hybridization.



Supplementary Fig. S4. Sequence alignment of glycine amidinotransferase protein in *Xenopus* (NP_001079699), *zebrafish* (NP_955825), *chick* (NP_990076), *mouse* (NP_080237) and *human* (NP_001473). The arrow indicates the beginning of the probe used for in situ hybridization.

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1  - - - - M E Q P I I K R L S T F E E F Y P D L S K H N N H M A K V L T L D M Y K K L R R S R T T S S G Xenopus
1  M P P F G N T H N L L K M N Y S A E Q E Y P D L T K H N N H M A K V L T P E M Y A N L R D K Q T P S G Zebrafish
1  M P P F S N S H N L L K M K Y S V D D E E Y P D L S V H N N H M A K V L T L D L Y K K L R D R K E T P S G Chick
1  M P P F S N S H N T Q K L R F P A E D E F P D L S S H N N H M A K V L T P E L Y A E L R A K C T P S G Mouse
1  M P P F S N S H N A L K L R F P A E D E F P D L S A H N N H M A K V L T P E L Y A E L R A K S T P S G Human

46 F T L D D V I Q T G V D N P G H P F I M T V G C V A G D E E S Y E V F K D L F D P I I E D R H G G Y Xenopus
51 F T L D D V I Q T G V D N P G H P F I M T V G C V A G D E E S Y E V F K E L L D P V I E D R H G G Y Zebrafish
51 F T L D D V I Q T G V D N P G H P F I M T V G C V A G D E E S Y E V F K E L L D P V I E D R H G G Y Chick
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51 F T L D D V I Q T G V D N P G H P Y I M T V G C V A G D E E S Y E V F K D L F D P I I E D R H G G Y Human

96 K P T D Q H K K T D I N S A N L K G G D D L D P N Y V L S S R V R T G R S I R G Y S L P P H C S R G E Xenopus
101 K P T D K H K T D L N P D N L K G G D D L D P N Y V L S S R V R T G R S I R G F C L P P H C S R G E Zebrafish
101 K P T D E H K T D L N A D N L Q G G D D L D P N Y V L S S R V R T G R S I R G F C L P P H C S R G E Chick
101 Q P S D E H K T D L N P D N L Q G G D D L D P N Y V L S S R V R T G R S I R G F C L P P H C S R G E Mouse
101 K P S D E H K T D L N P D N L Q G G D D L D P N Y V L S S R V R T G R S I R G F C L P P H C S R G E Human

146 R R A I E K M S I E A L A S L D G D L K G K Y Y A L N S M T E Q E Q Q Q L I D D H F L F D K P V S P Xenopus
151 R R G I E S L S V E A L G A L D G D L K G K Y Y A L K D M T E E E Q Q Q L I D D H F L F D K P V S P Zebrafish
151 R R A I E K L S V E A L S S L D G D L K G K Y Y A L R N M T D A E Q Q Q L I D D H F L F D K P V S P Chick
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246 N R F C T G L T K I E S I F K N K G S P F M W N Q H L G Y V L T C P S N L G T G L R A G V H I K L P Xenopus
251 N R F C T G L T K I E E L F K E K G H E F M W N P H L G Y V L T C P S N L G T G L R G G V H V K L P Zebrafish
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251 T R F C T G L T Q I E T L F K S K N Y E F M W N P H L G Y I L T C P S N L G T G L R A G V H I K L P Human

296 N L S K N D K F G E I L K R L R L Q K R G T G G V D T A A V G G V F D V S N A D R L G F S E V E L V Xenopus
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351 Q M V V D G V K L L I E M E Q R L E Q Q Q A I D D L M P A Q K Human

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Supplementary Fig. S5. Sequence alignment of the brain isoform of creatine kinase in *Xenopus* (NP_001080363), zebrafish (NP_775329), chick (NP_990641), mouse (NP_067248) and human (NP_001814). The arrow indicates the beginning of the probe used for in situ hybridization.

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1  M P P F G N T H N N F K L N Y S A E D E E Y P D L T K H N N H M A K V L T P D I Y K K L R D K Q T P S G Xenopus
1  M P P F G N T H N N F K L N Y S V D E E Y P D L S K H N N H M A K V L T K E M Y G K L R D K K Q T P T G Zebrafish
1  M P P F S N S H N K H K L K F S A E E E F P D L S K H N N H M A K V L T P E L Y K R L R D K E T P S G Chick
1  M P P F S N T H N K F K L N Y K P Q E E Y P D L S K H N N H M A K V L T P D L Y N K L R D K E T P S G Mouse
1  M P P F G N T H N K F K L N Y K P E E E Y P D L S K H N N H M A K V L T L E L Y K K L R D K E T P S G Human

51 F T L D D V I Q T G V D N P G H P F I M T V G C V A G D E E S Y E V F K D L L D P V I E D R H G G Y Xenopus
51 F T L V D V I Q T G V D N P G H P F I M T V G C V A G D E E S Y E V F K D L L D P V I S D R H G G Y Zebrafish
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51 F T L V D V I Q T G V D N P G H P F I M T V G C V A G D E E S Y E V F K D L L D P V I I S D R H G G Y Human

101 K P T D K H K K T D L N F A N L K G G D D L D P N Y V L S S R V R T G R S I K G Y T L P P H C S R G E Xenopus
101 K A T D K H K K T D L N L F E N L K G G D D L D P N Y V L S S R V R T G R S I K G Y A L P P H N S R G E Zebrafish
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251 R R F C V G L Q K I E E I F K K A G H P F M W N E H L G Y V L T C P S N L G T G L R G G V H V H K L A Mouse
251 R R F C V G L Q K I E E I F K K A G H P F M W N Q H L G Y V L T C P S N L G T G L R G G V H V H K L A Human

301 N L S K H E K F E E I L T R L R L Q K R G T G C V D T A A V G G V F D I S N A D R L G S S E V E Q V Xenopus
301 K L S T H A K F E E I L T R L R L Q K R G T G C V D T A S V G C V F D I S N A D R L I G S S E V E O V Zebrafish
301 K L S Q H F K F E E I L T R L R L Q K R G T G C V D T A A V G A V F D I S N A D R L G S S E V E O V Chick
301 N L S K H P K F E E I L T R L R L Q K R G T G C V D T A A V G A V F D I S N A D R L G S S E V E O V Mouse
301 H L S K H P K F E E I L T R L R L Q K R G T G C V D T A A V G S V F D V S N A D R L L G S S E V E Q V Human

351 Q M V V D G V K L M I E M E K K L E K G Q T I D D M I P A Q K Xenopus
351 Q C V D D G V K L M V E M E K K L E K G E S I D S M I P A Q K Zebrafish
351 Q M V V D G V K L M V E M E K K L E K Q N Q P I D D M I P A Q K Chick
351 Q L V V D G V K L M V E M E K K L E K G Q S I D D M I P A Q K Mouse
351 Q L V V D G V K L M V E M E K K L E K G Q S I D D M I P A Q K Human

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Supplementary Fig. S6. Sequence alignment of the muscle isoform of creatine kinase in *Xenopus* (NP_001080073), zebrafish (NP_571007), chick (NP_990838), mouse (NP_031736) and human (NP_001815). Arrows indicate the region used for in situ hybridization.