Mud crab glutamate dehydrogenase: molecular cloning, tissue expression and response to hyposmotic stress

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GDH

GDH

GDH
S. paramamosain

Materials and methods

S. paramamosain

Ruditapes philippinarum

Methods

GDH

GDH

GDH

GDH

GDH

GDH

Litopenaeus vannamei

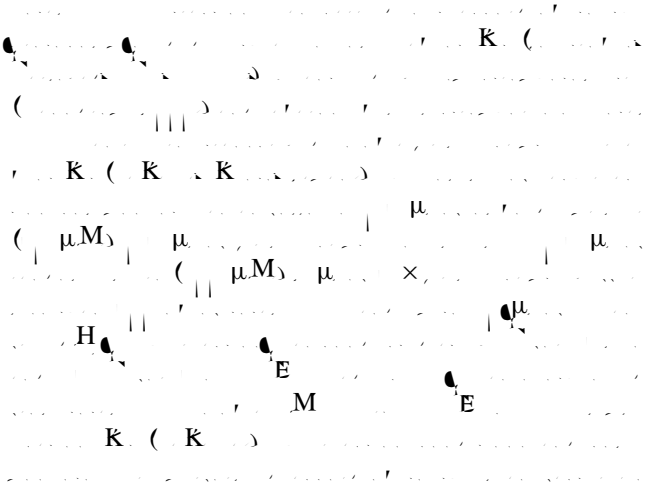
GHD

Eriocheir sinensis

GDH

GDH

Scylla paramamosain



GDH

GDH *GDH* (

GDH

E

μ

(

(H

(

±E M *GDH*

GDH

P ⁄

Results

H

S. paramamosain

(

(

(

GDH *S. paramamosain*

GDH *S. paramamosain*

(

K M

GDH

% *E. sinensis* *L. vannamei* GDH *Fenneropenaeus chinensis* *L. vannamei* GDH

(

(

GDH *S. paramamosain*

S. paramamosain

E. sinensis *L. vannamei* *F. chinensis*

GDH *S. paramamosain*

GDH

S. paramamosain

GDH

(*P* ⁄ *GDH*

GDH

GDH

GDH

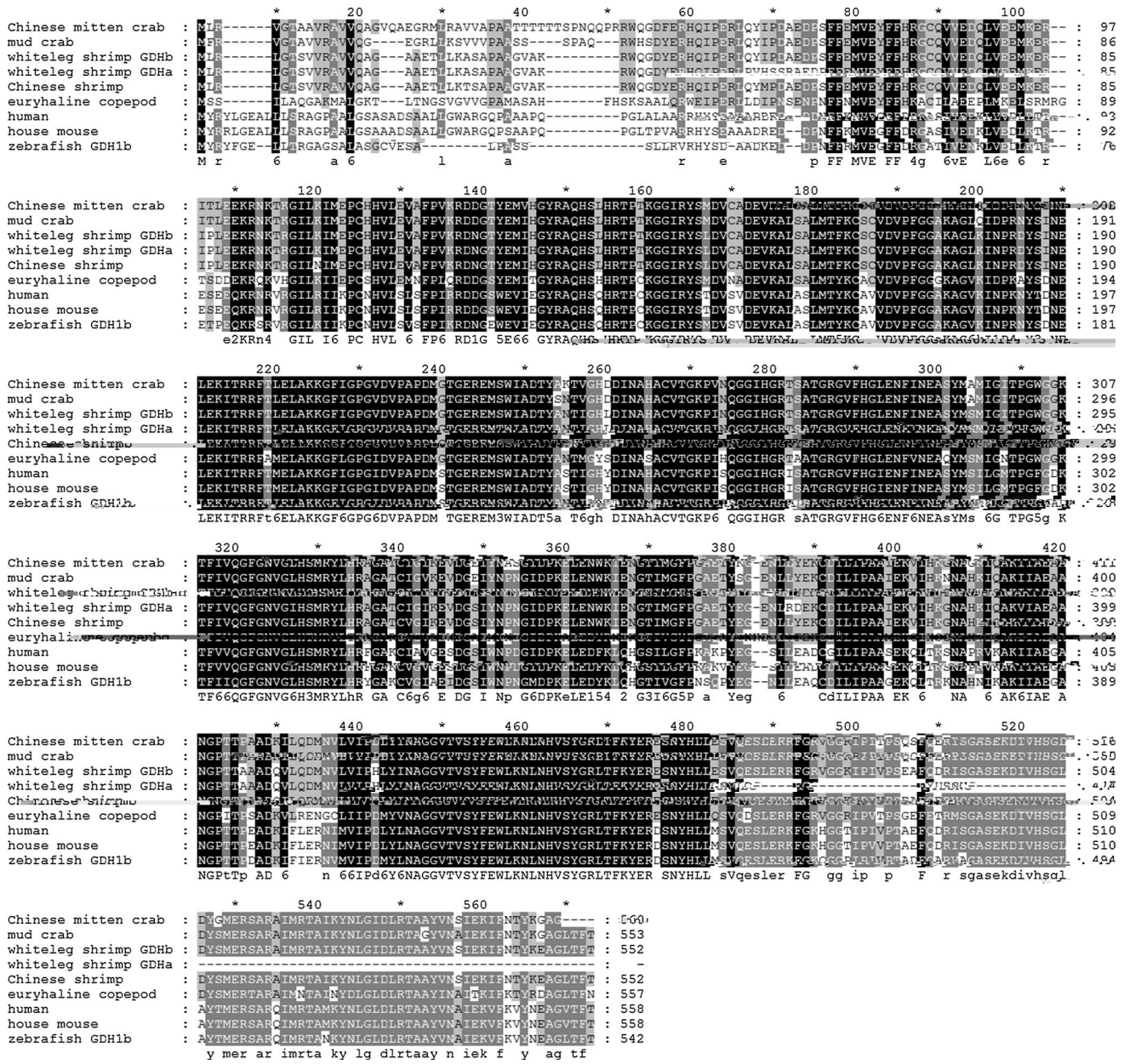


Fig. 3 *GDH* *Scylla paramamosain* *GDH* *Eriocheir sinensis* *Fenneropenaeus chinensis* *Tigriopus californicus* *Homo sapiens* *S. paramamosain* *Litopenaeus vannamei GDH* *L. vannamei GDH* *Danio rerio GDH*

GDH

GDH *S. paramamosain*

GDH

GDH *GDH*

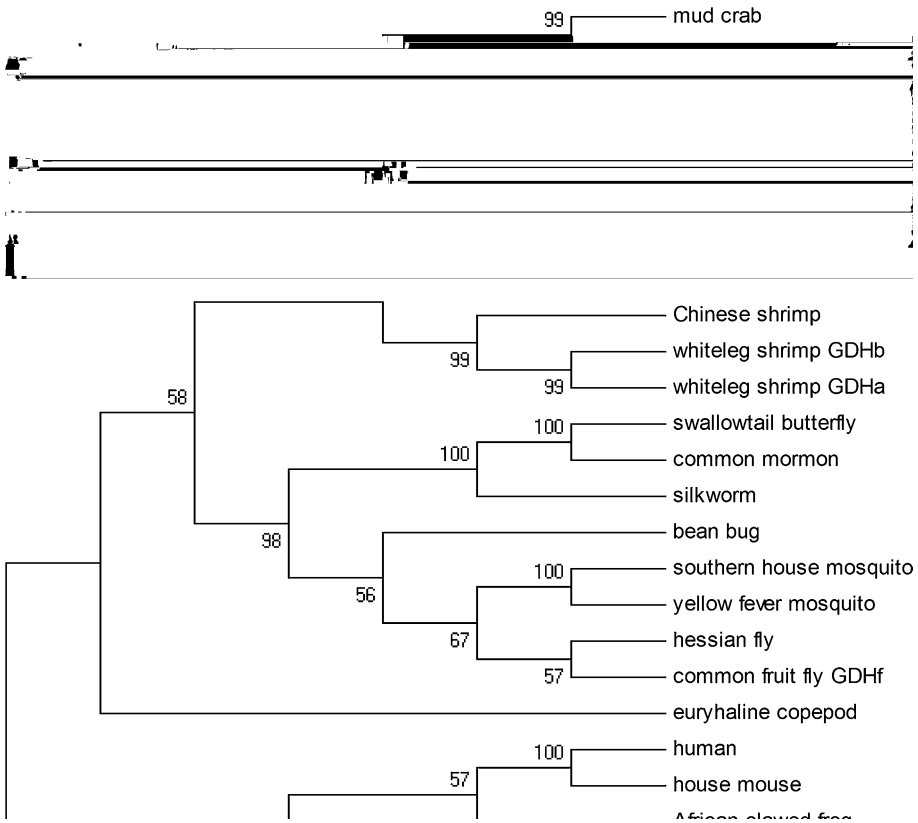


Fig. 4 *GDH* *Scylla paramamosain* *GDH* *Xenopus laevis* (M *Salmo salar* (*Riplortus pedestris* (K *Eriocheir sinensis* (*Fenneropenaeus chinensis* (K *Papilio xuthus* (K *Drosophila melanogaster GDH* (*Misgurnus anguillicaudatus* (*Tigriopus californicus* (*Mayetiola destructo* (K *Mus musculus* (M *Homo sapiens* (*Oncorhynchus mykiss* (*Monopterus albus* (*Carassius auratus red var* (*Bombyx mori* (M *Culex quinquefasciatus* (M *S. paramamosain* (K M *Papilio xuthus* (K *Litopenaeus vannamei GDH* (M *L. vannamei GDH* K *Aedes aegypti* (M *Danio rerio GDH* (M

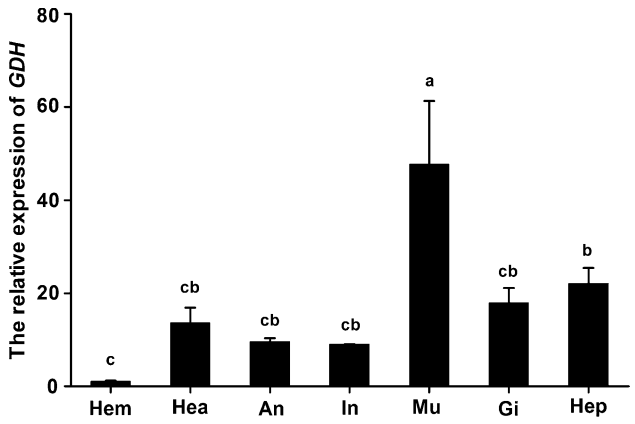


Fig. 5 *GDH* *Scylla paramamosain* *Hem* *Hea* *An* *In* *Mu* *Gi* *Hep* *Bars*

GDH (*P* (% % (*P* % %

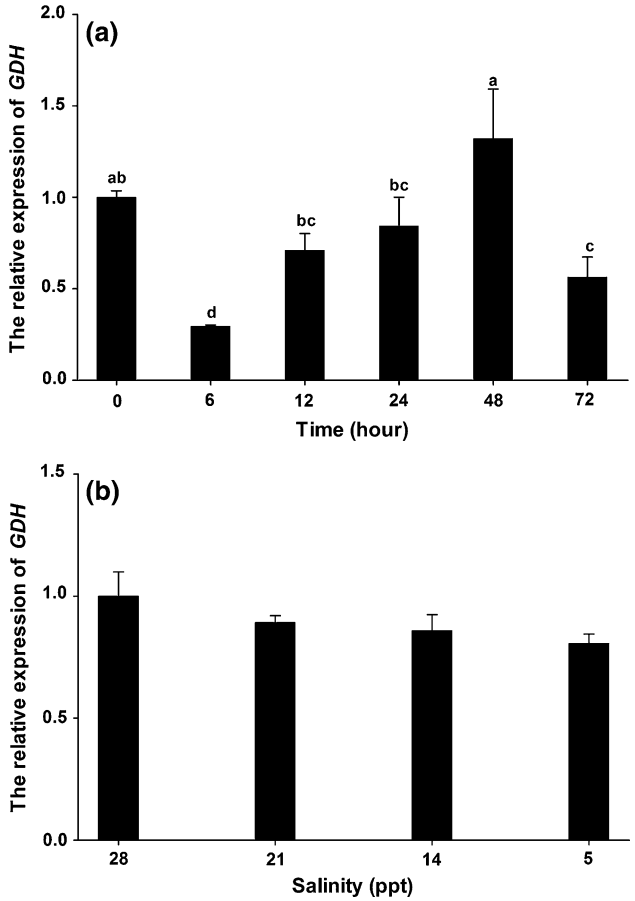


Fig. 6 **a** *GDH* *Scylla paramamosain* **b** H *S. paramamosain* *Bars* E M *different letters* (*n* = *P*

(*P*

(*P*

(*P*

(*P*

(

(*P*

(*P*

(*P*

(*P*

(*P*

(*P*

(*P*

H

Discussion

H

H

S. paramamosain

S. paramamosain

Macrobrachium amazonicum

L. vannamei

Scylla serrata

GDH

GDH

GDH

S. paramamosain

Tigriopus californicus *L. vannamei* *E. sinensis*

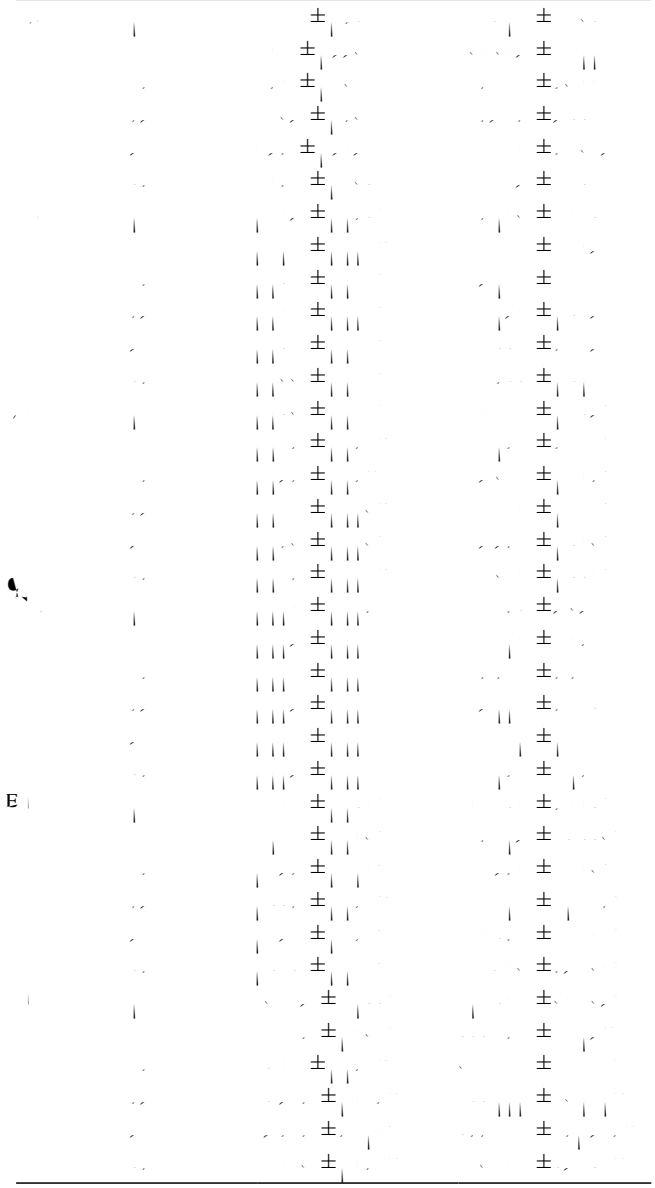
GDH

Table 2 *Scylla paramamosain*

(±E M)

	M	H
	±	±
	±	±
	±	±
	±	±
	±	±
	±	±
	±	±
	±	

Table 2



(*n* = , *P* ⁄)

GHD

GDH

GDH

S. paramamosain,

L. vannamei *E. sinensis*

H

M

H

M

S. paramamosain

L. vannamei *E. sinensis*

GDH

( ) ( )

(*P* ⁄

GDH *L. vannamei*

+ K+

GDH *E. sinensis*

H *T. californicus* *GDH*

T. californicus *S. paramamosain* *T. californicus*

GDH *T. californicus*

S. paramamosain ( )

GDH

H

E. sinensis, *GDH*

H

GDH

GDH

S. paramamosain

H *GDH*

paramamosain

GDH

Macrobrachium olfersii

Table 3
Scylla paramamosain

(n =
P <

Table 4
Scylla paramamosain

(n =
P <

H

(P <

S. paramamosain

Palaemon northropi

S. paramamosain

T. californicus

M. olfersii *M. amazonicum*

L. vannamei *GDH*

(P <

GDH *S. paramamosain*

GDH

(P <

L. vannamei

(P <

(P <

GDH

S. paramamosain

GDH

GDH *S. paramamosain*

S. paramamosain

GDH

S. paramamosain

Acknowledgments

( )

References

( )

H M ( )

( )

H M ( )

Dilocarcinus pagei (E E

M ( )

( )

E

M ( )

H M ( )

Macrobrachium amazonicum

M olfersi ( )

( )

M

( ) M

( ) M

Litopenaeus vannamei

E M E

E

( )

+ K+ *Litopenaeus vannamei*

E ( )

Litopenaeus vannamei

E

( )

Eriocheir sinensis

H K M M ( )

Scylla spp

( )

Penaeus monodon

H ( ) M

(M H)

Scylla serrata E

H M ( ) K

Litopenaeus vannamei

M ( )

M

Litopenaeus vannamei

K H ( ) K

Scylla paramamosain

M

M (E

MH M M ( )

$^{+}$ K^{+}

Macrobrachium amazonicum

(E E ( )

Scylla serrata M

( )

M M ( )

( )

E

M

( )

Macrobrachium olfersii ( )

M

H M H H

E H ( )

Crassostrea gigas

H M

(E

E M (E

E

M ( )

Litopenaeus vannamei

M ( )

Litopenaeus vannamei