

Supplementary Information

Polyamine sensitivity of gap junctions is required for skin pattern formation in zebrafish

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GJA3

zfCx33.9	MGDFSSLGKL	LESAQEHSTV
zfCx48.5	MGDWSFLGRL	LENAQEHSTV
Pufferfish	MGDWSFLGRL	LENAQEHSTV
Frog	MGDWSFLGRL	LENAQEHSTV
Chick	MGDWSFLGRL	LENAQEHSTV
Rat	MGDWSFLGRL	LENAQEHSTV
Cow	MGDWSFLGRL	LENAQEHSTV
Dog	MGDWSFLGRL	LENAQEHSTV
Homo	MGDWSFLGRL	LENAQEHSTV

GJA5

zfCx41.8	MADWSLLGNF	LEEVQEHSTS
zfCx45.6	MGDWSLLGNF	LEEVQEHSTS
Pufferfish	MADWSLLGNF	LEEVQEHSTS
Frog	MGDWSFLGQF	LEEVQKHSTV
Chick	MGDWSFLGEF	LEEVHKHSTV
Rat	MGDWSFLGEF	LEEVHKHSTV
Cow	MGDWSFLGEF	LEEVHKHSTV
Dog	MGDWSFLGEF	LEEVHKHSTV
Homo	MGDWSFLGNF	LEEVHKHSTV

GJA8

zfCx44.1	MGDWSFLGNI	LEEVNEHSTV
zfCx50.5	MGDWSFLGRL	LENAQEHSTV
Pufferfish	MGDWSFLGNI	LEEVNEHSTV
Frog	MGDWSFLGNI	LEEVNEHSTV
Chick	MGDWSFLGNI	LEQVNEQSTV
Rat	MGDWSFQGN	LEEVNEHSTV
Cow	MGDWSFLGNI	LEEVNEHSTV
Dog	MGDWSFLGNI	LEEVNEHSTV
Homo	MGDWSFLGNI	LEEVNEHSTV

Supplementary Figure S1 | Alignments of N-terminal domains of connexins from the GJA3, GJA5 and GJA8 groups.

N-terminal sequences of connexins within the Cx41.8 cluster, which include GJA3, GJA5 and GJA8 members, are aligned. Red characters indicate acidic residues, and blue characters indicate basic residues. Species names are abbreviated as follows: Pufferfish, *Tetraodon nigroviridis*; Frog, *Xenopus tropicalis*; Chick, *Gallus gallus*; Rat, *Rattus norvegicus*; Cow, *Bos taurus*; Dog, *Canis lupus*; Homo, *Homo sapiens*. Accession numbers for each connexin are shown below.

GJA3: Tetraodon, CAG00984; Xenopus, NP_001107721; Chick, NP_00103573; Rat, NP_077352; Cow, NP_00115976; Dog, XP_54317; Homo, AAD42925.

GJA5: Tetraodon, CAG00332; Xenopus, XP_002940510; Chick, NP_990835; Rat, NP_062153; Cow, DAA31637; Dog, AAA30838; Homo, NP_005257.

GJA8: Tetraodon, CAG05866; Xenopus, XP_002940515; Chick, NP_990328; Rat, NP_703195; Cow, DAA31619; Dog, XP_540274; Homo, NP_005258.