

Additional material for

Ancient origin of somatic and visceral neurons

Marc Nomaksteinsky, Stefan Kassabov, Zoubida Chettouh, Henri-Corto Stoeklé, Laure Bonnaud, Gilles Fortin,
Eric R. Kandel and Jean-François Brunet

Figures S1a-f and S2

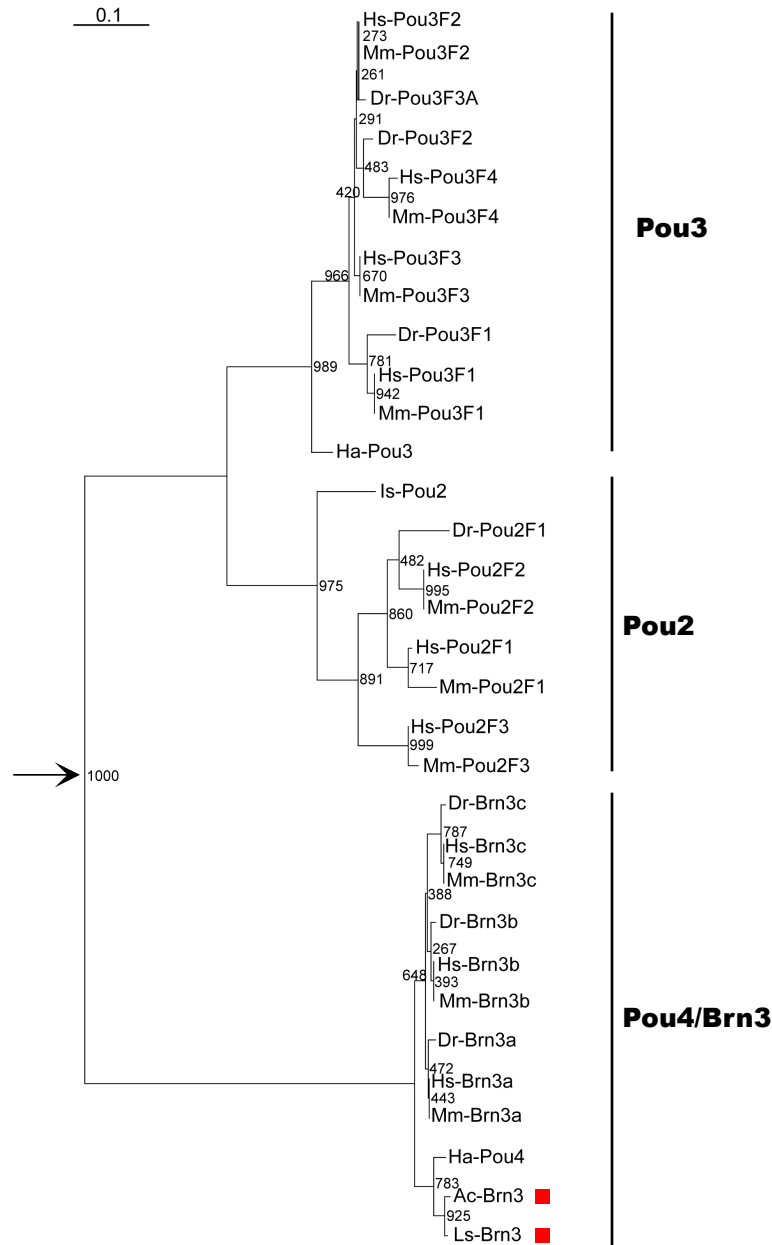
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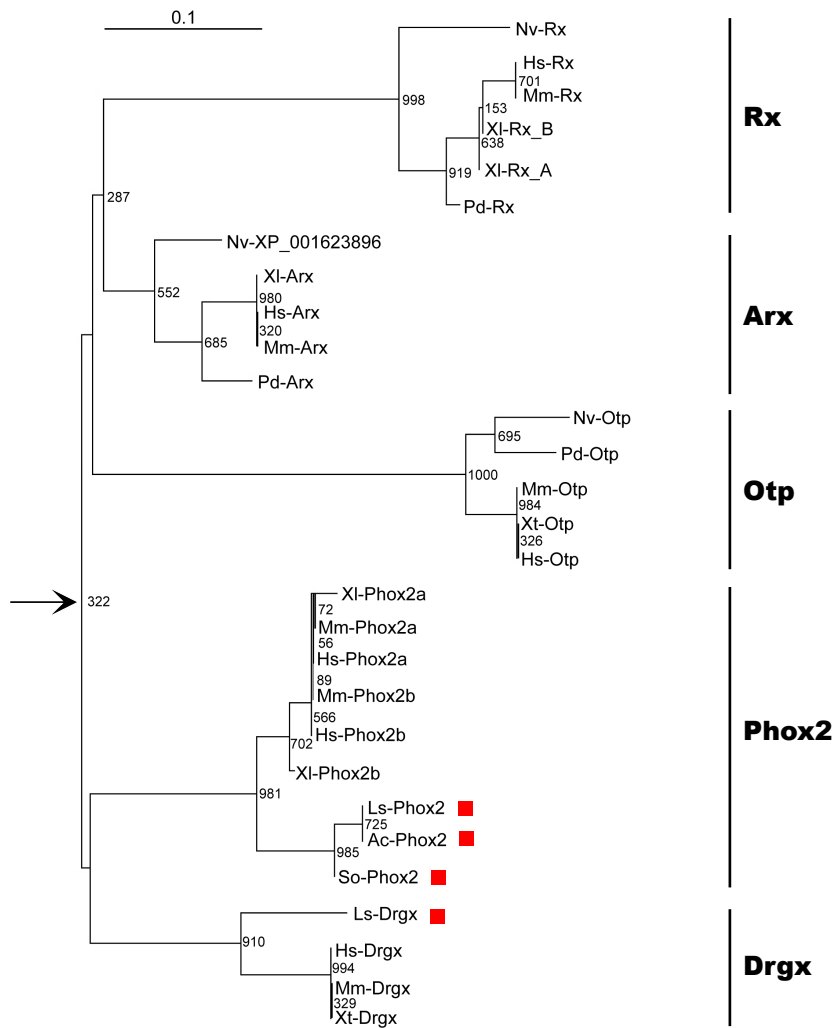
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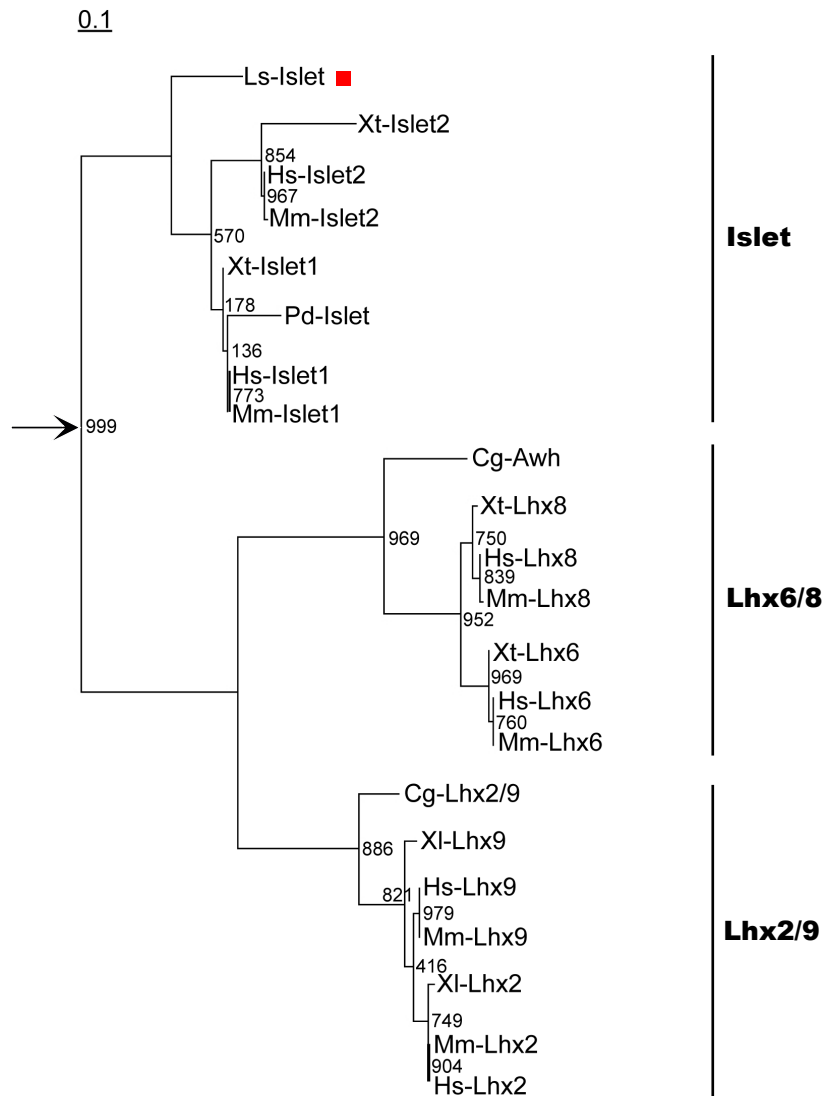


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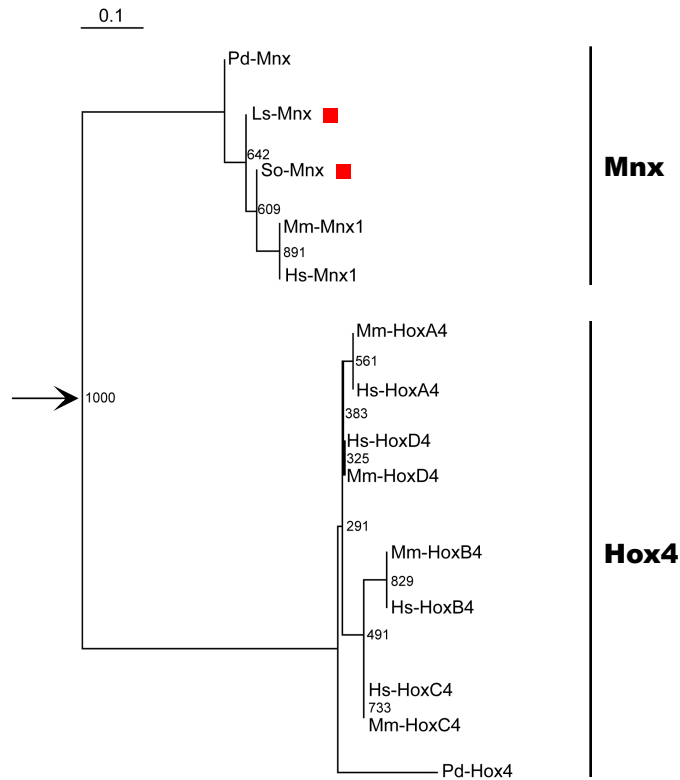
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 So-Mnx **G****K****T****R****R****P****R****T****A****F****T****S****Q****L****L****E****L****E****R****Q****F****K****L****N****K****Y****L****S****R****P****K****R****F****E****V****A****T****S****L****M****L****T****E****T****O****V****K****I****W****F****O****N****R****R****M****K****W****K**
 Mm-Mnx1 **G****K****C****R****R****P****R****T****A****F****T****S****Q****L****L****E****L****E****H****Q****F****K****L****N****K****Y****L****S****R****P****K****R****F****E****V****A****T****S****L****M****L****T****E****T****O****V****K****I****W****F****O****N****R****R****M****K****W****K**
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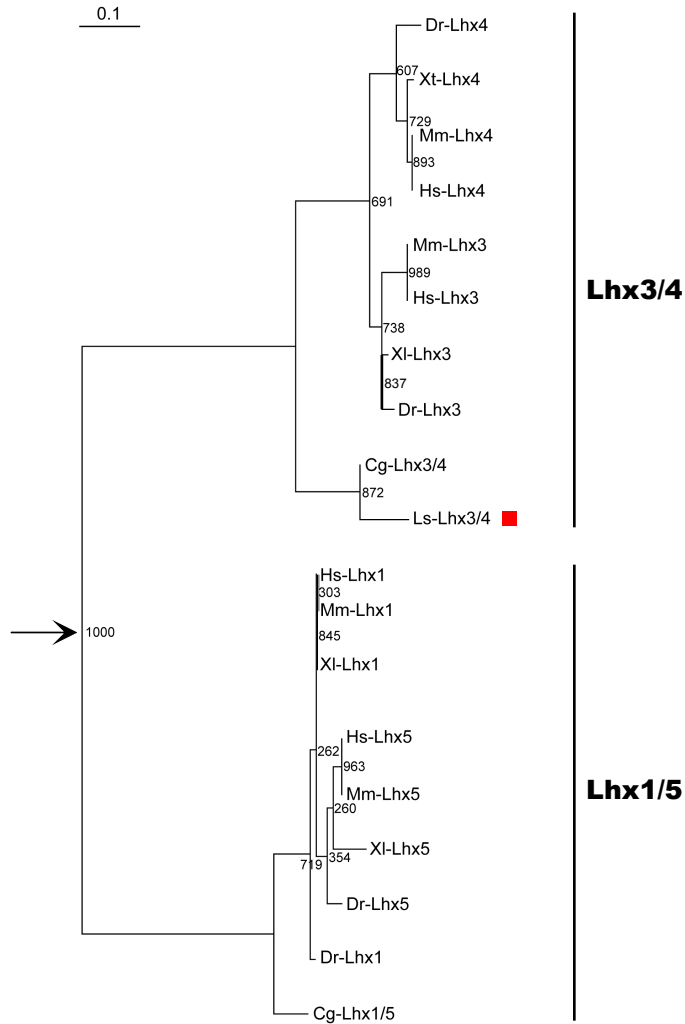
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Ls-Syt1 PYVKISLML-NGKRISKKKTTHVKKCTLNPYVNESFTFEVFP-EQIQKVTLLITVVDYDRI
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Cg-Syt1 PYVKISLML-NGKRISKKKTTHVKKCTLNPYVNESFTFEVFP-EQIQKVTLLITVVDYDRI
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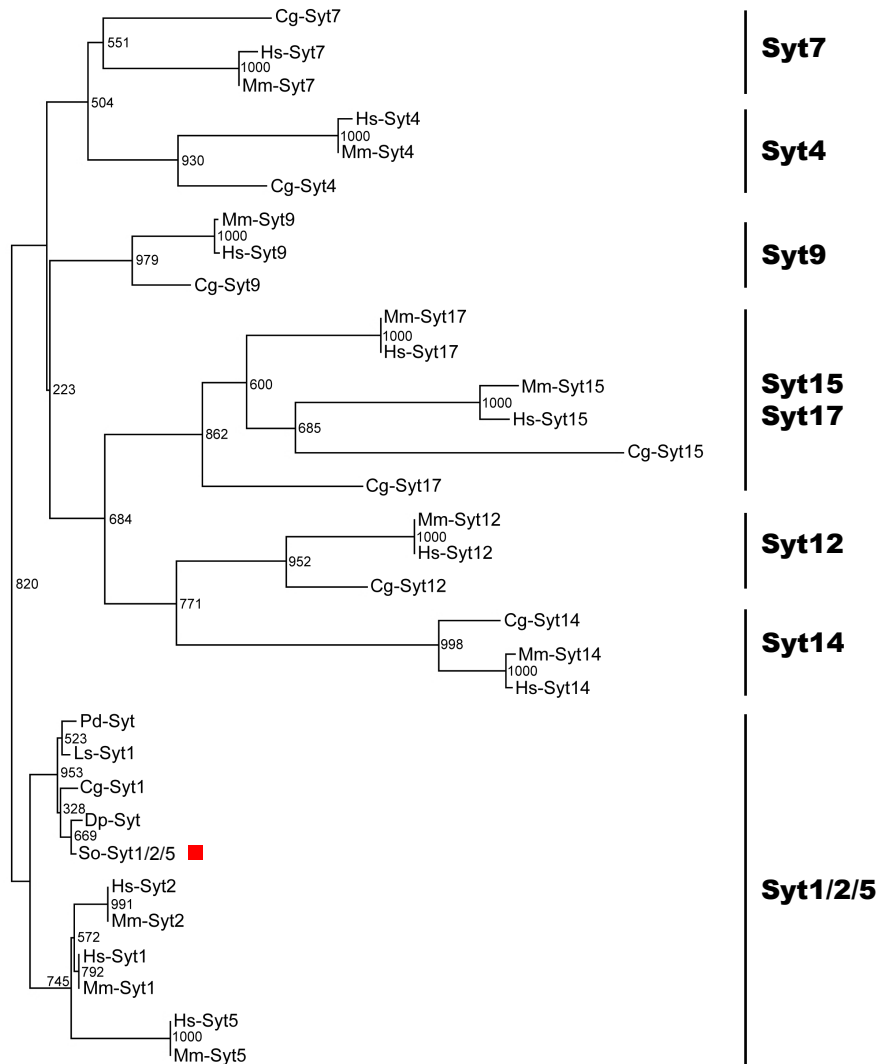


Figure S1. Sequence alignments and Maximum Likelihood (ML) phylogenetic trees (1000 bootstrap replicates) for *Aplysia* and *Lymnaea Brn3* (a), *Aplysia*, *Lymnaea*, *Sepia Phox2* and *Lymnaea Drgx* (b), *Lymnaea Islet* (c), *Lymnaea* and *Sepia Mnx* (d), *Lymnaea Lhx3/4* (e) and *Sepia Synaptotagmin 1/2/5* (f).

The amino acids included in each ML analysis are indicated by an horizontal bar above the alignment. Scale is substitutions per site. The genes cloned in this study are indicated by a red square. The root of the tree is indicated by an arrow.

Newly cloned sequences from *Lymnaea*, *Aplysia* and *Sepia* have been deposited in Genbank under the following accession numbers: *Sepia Synaptotagmin1/2/5*, JX983553; *Lymnaea Brn3*, JX971965; *Aplysia Brn3*, JX971966; *Lymnaea Sensorin-A*, JX971967; *Lymnaea Phox2*, JX971968; *Aplysia Phox2*, JX971969; *Sepia Phox2*, JX971970; *Lymnaea Islet*, JX971971; *Lymnaea Lhx3/4*, JX971972; *Lymnaea Mnx*, JX971973; *Sepia Mnx*, JX971974; *Lymnaea Drgx*, JX971975.

Species abbreviations: *Ac*, *Aplysia californica*; *Cg*, *Crassostrea gigas*; *Dp*, *Doryteuthis pealeii*; *Dr*, *Danio rerio*; *Hs*, *Homo sapiens*; *Is*, *Ixodes scapularis*; *Ls*, *Lymnaea stagnalis*; *Mm*, *Mus musculus*; *Nv*, *Nematostella vectensis*; *Pd*, *Platynereis dumerilii*; *So*, *Sepia officinalis*; *Xl*, *Xenopus laevis*; *Xt*, *Xenopus tropicalis*.

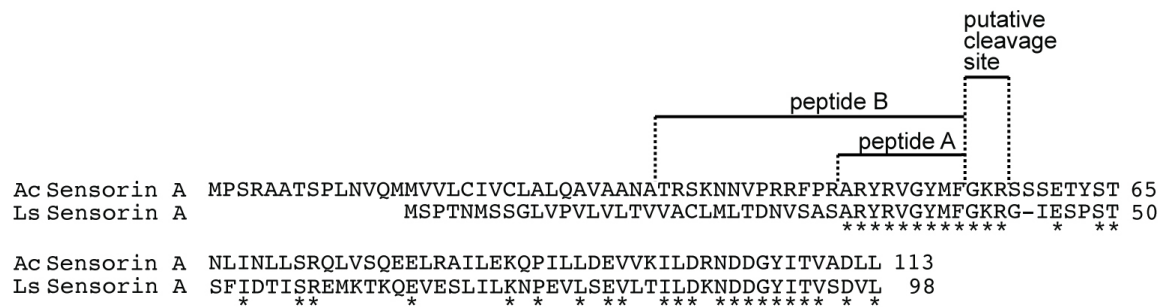


Figure S2. Alignment of the Sensorin amino acid sequences of *Aplysia californica* (Ac) and *Lymnaea stagnalis* (Ls). A star underlies conserved residues and an hyphen represents a gap.