

Stem Cell Reports

Supplemental Information

**Pattern of Functional TTX-Resistant
Sodium Channels Reveals a Developmental Stage
of Human iPSC- and ESC-Derived Nociceptors**

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Table S1**Results of Boltzmann Fits of voltage-dependence of activation and fast inactivation**

Activation	HUES6 Noci	hiPSC Noci	NAV1.5	NAV1.8	NAV1.5/NAV1.8	E14-16	P6
Vhalf	-53,5 ± 2,5 mV	-49,5 ± 2,4 mV	-39,8 ± 1,0 mV	-2,1 ± 1,5 mV		-26,4 ± 1,2 mV	-27,0 ± 0,9 mV
slope	6,19 ± 0,60 mV	7,1 ± 0,43 mV	8,19 ± 0,88 mV	11,75 ± 0,54 mV		9,9 ± 0,36 mV	4,8 ± 0,27 mV
Fast Inactivation							
Vhalf	-93,0 ± 2,3 mV	-90,7 ± 1,6 mV	-79,9 ± 2,4 mV	-58,1 ± 3,7	-73,1 ± 1,1 mV	-70,7 ± 0,9 mV	-39,7 ± 1,1 mV
slope	9,98 ± 0,46 mV	9,9 ± 0,81 mV	5,52 ± 0,49 mV	11,05 ± 0,78 mV	9,79 ± 0,53 mV	14,4 ± 1,46 mV	4,9 ± 0,21 mV

Table S2**Primers used for amplification of human and rat genes**

Genes	Accession number (NCBI) or citation	Primer
human genes		
<i>SCN1A</i> (NAV1.1)	Candenas et al., 2006	for: 5'-GAAGAACAGCCCGTAGTGGA-3' rev: 5'-TTCAAATGCCAGAGCACCA-3'
<i>SCN2A</i> (NAV1.2)	Candenas et al., 2006	for: 5'-GAAGGCAAAGGGAACTCTGG-3' rev: 5'-CAGTGAGACATCAACAATCAGGAAG-3'
<i>SCN5A</i> (NAV1.5)	Candenas et al., 2006	for: 5'-CCGCCATTTACACCTTTGAGT-3' rev: 5'-CGCTGAGGCAGAAGACTGTG-3'
<i>SCN8A</i> (NAV1.6)	NM_014191.3	for: 5'-ACAATGTTGGGGCAGGATAC-3' rev: 5'-GGTGAAGAAGGAGCCGAAG-3'
<i>SCN9A</i> (NAV1.7)	NM_002977.3	for: 5'-ACCTATCTCTGCTTCAAGTTGC-3' rev: 5'-TGGGCTGCTTGTCTACATTAAC-3'
<i>SCN10A</i> (NAV1.8)	NM_006514.2	for: 5'-CTGTCGATGTCTCGGCATTC-3' rev: 5'-TGGGCACTTCTGTTCCAGACTC-3'
<i>SCN11A</i> no1 (NAV1.9)	NM_014139.2	for: 5'-GAAATGCTTACCTCGCTCTG-3' rev: 5'-GCTCTCAAACCTCTGGCTGTTG-3'
<i>P2RX3</i>	NM_002559.3	for: 5'-TCCCCAGGCTACAACCTTCAG-3' rev: 5'-TGTTGAACTTGCCAGCATT-3'
<i>TRPV1</i>	NM_080704.3	for: 5'-GCACAGGAGAGCAAGAATC-3' rev: 5'-GTCCAGTTCACCTCGTCCAC-3'
<i>GAPDH</i>	NM_002046.4	for: 5'-GTCGGAGTCAACGGATTTG-3' rev: 5'-TGGGTGGAATCATATTGGAAC-3'
<i>HPRT1</i>	NM_000194.2	for: 5'-CCTGGCGTCGTGATTAGTG-3' rev: 5'-TCCCATCTCCTTCATCACATC-3'
<i>B2M</i>	NM_004048.2	for: 5'-GAGGCTATCCAGCGTACTCC-3' rev: 5'-AATGTCGGATGGATGAAACC-3'

rat genes		
<i>Scn5a</i> (Nav1.5)	NM_013125.2	for: 5'-TCGAGACCATGTGGGACTG-3' rev: 5'-AGCAAGGCCAAGAAGAGATTC-3'
<i>Scn9a</i> (Nav1.7)	NM_133289	for: 5'-CTTGAGGGATCCAAAGATG-3' rev: 5'-TTTCTGCCAGCCTTCACAC-3'
<i>Scn10a</i> (Nav1.8)	NM_017247.1	for: 5'-AACGAACCTTTCCGAGCAC-3' rev: 5'-GGTGGGCACTTCAGCTTAG-3'
<i>Scn11a</i> (Nav1.9)	NM_019265.2	for: 5'-GGCAGCCAAGTCAATCTTTC-3' rev: 5'-TGAGGACCATCACGTCTACC-3'
<i>Gapdh</i>	NM_017008.4	for: 5'-CCTGGAGAAACCTGCCAAG-3' rev: 5'-CCCAGGATGCCCTTTAGTG-3'
<i>Hprt1</i>	NM_012583.2	for: 5'-TCCCAGCGTCGTGATTAG-3' rev: 5'-TCGAGCAAGTCTTTCAGTCC-3'
<i>B2m</i>	NM_012512.2	for: 5'-GTGCTTGCCATTCAGAAAAC-3' rev: 5'-AGTTGAGGAAGTTGGGCTTC-3'

Supplemental References

Candenas, L., M. Seda, P. Noheda, H. Buschmann, C. G. Cintado, J. D. Martin and F. M. Pinto (2006).
 "Molecular diversity of voltage-gated sodium channel alpha and beta subunit mRNAs in human tissues."
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