TRPV1

```
R norvegicus        MEQRASLDSEESESPPQENSCLDPPDRDPNCKPPPVKPHIFTTRSRTRLFGKGDSEEASP 60
O mykiss            --------MSKSKGPEYPSFSLETDDRTDDERAQ-SRQVKKPDRLVSALGLGSSGGPKAP 51
S salar             --------MSKSKGPEYPSFSLETDDRTDDERAQ-SRQVKKPDRLVSALGLGSSGGPKTP 51
P nyererei          --------MKKS---EMFGFTLETDDRTEEERSR-QKMTKK-DGLALRL---SPEDPKTP 44
D rerio             --------MSKSMDSSVSSFSLETDDQTEEERTK-AKQMKK------------VSKDKRP 39
                             .:*      .  *:. *:  : :.   :                      *

R norvegicus        LDCPYEEGGLASCPIITVSSVLTIQRPGDGPASVRPSSQDSVSAGEKPPRLYDRRSIFDA 120
O mykiss            MDSDYQDELEEAAPKIRFN--LYFDT------EVRCLEEN--KEDRDSKRFDIIKRLFEA 101
S salar             MDSDYQDELEEAAPKIRFN--LNFDK------EVRCLEEN--KEDRVSKRFD-IKRLFEA 100
P nyererei          MDTDYQEEMEKTKPQIRFN--FNFDK------GIRGVDQH--DNRRDSKTYN-RDRLFEA 93
D rerio             MDSNYVDDVVEPSSTIKFN--LHFDR------GIRNLKEE--PAQQDNDRFT-IKRLFEA 88
                    :*  * :    . . * ..  : ::        :*  .:.     .          :*:*

R norvegicus        VAQSNCQELESLLPFLQRSKKRLTDSEFKDPETGKTCLLKAMLNLHNGQNDTIALLLDVA 180
O mykiss            VSTGDVMKLEGLHQYLHQSMKKLSNTEYQS--YGKNVLLKALLNLRNGRNNTIEYLLDIS 159
S salar             VSTGDVMKLEGLHQYLHQSMKKLSNTEYQS--YGKNVLLKALLNLRKGRNNTIEYLLDIS 158
P nyererei          VASRDISKLDGLQEYLRQNMKKLSDSLYRS--YGKTPLMKALLHLKDGRNETVEMLIDIS 151
D rerio             VSSGDVSKMQGLHEYLHKNMKRLTDSQYKS--NGKTALLKALLNLRQGENDTIEQLLDIA 146
                    *:  :  :::.*  :*::. *:*::: ::.   **. *:**:*:*:.*.*:*:  *:*::

R norvegicus        RKTDSLKQFVNASYTDSYYKGQTALHIAIERRNMTLVTLLVENGADVQAAANGDFFKKTK 240
O mykiss            EKMGDINELVNAAYTDSYYKGQTALHIAIERRSTYFVELLIKKGANVHAKACGKFFQLND 219
S salar             EKMGDIKEFVNAAYTDSYYKGQTALHIAIERRSIYFVELLIKKGANVHAKACGKFFQAHD 218
P nyererei          EKMGDVKEFVNAAYTNNYYKGQTALHIAIERRSIFYVKLLVSKGADVHVRACGKFFQPHK 211
D rerio             EKMGDLKNFINAAYTDSYYKGQTALHVAIERRSMKFVQMLVKKGADVHAKACGKFFQPNQ 206
                    .* ..::::::**:**:.*********:*****.   * :*:.:**:*:. * *.**:  .

R norvegicusGRPGFYFGELPLSLAACTNQLAIVKFLLQNSWQPADISARDSVGNTVLHALVEVADNTVD 300
O mykissG-PSFYFGELPLSLAACTNQPEVVDFLLENDYHRVDVRESDSLGNMVLHALVVLADNTPE 278
S salarG-PSFYFGELPLSLAACTNQPEVVDFLLENDYQRVDVRESDSLGNMVLHALVVLADNTPE 277
P nyererei G-PYFYFGELPLSLAACTNQPDVVDFLMDNEYQRADAKMVDSQGNTVLHALVMVADNSKC 270
D rerioK-MCFYFGELPLSLAACTNQQDIVDFLMENPHQAVDVRERDCHGNTVLHALVSVADNSPE 265
                        ****************  :*.**::*  : .*    *. ** ****** :***:

R norvegicus        NTKFVTSMYNEILILGAKLHPTLKLEEITNRKGLTPLALAASSGKIGVLAYILQREIHEP 360
O mykiss            NTDFITSMYDHILTTAARLHPKWRLEDIENNQGLTTIKLAAKTGKIGLFKHMMHREFQER 338
S salar             NTDFITSMYDHILTTTARLHPEWRLEDIENNQGLTTIKLAAKTGKIGLFKHMMHREFQER 337
P nyererei          NTEFIVSMYDRILKITARLYPKVQLENIENKKGLTPLKMAAHTGKTGLFSHILRREFQET 330
D rerio             NTEFVIAMYDHILIKADQLHPKTKLEEIENNEGLTPITLAAKKGKLGLFKHIVQRELMG- 324
                    **.*: :**:.**    :*:*  :**:* *.:***.: :** .** *:: ::::**:

R norvegicus        ECRHLSRKFTEWAYGPVHSSLYDLSCIDTCEKNSVLEVIAYSSSETPNRHDMLLVEPLNR 420
O mykiss            ETRNLSRKFTEWVYGPVHSSLYDLDSLDSYEKNSVLEIIVYS-SEIPNRHEMLQIEPLNR 397
S salar             ETRHLSRKFTEWVYGPVHSSLYDLASLDSYEKNSVMEIIVYS-SDIPNRHEMLQIEPLNR 396
P nyererei          GTKHLSRKFTEWVYGPVHCSLYDLASVDSYEENSVLKILIYG-SDIPNRHEMLETEPLIQ 389
D rerio             -CRHLSRKITEWAYGPVCSSLYDLSSLDTYEKNSALEIVVYG-SEIPNRLEMLQIEPLNR 382
                      ::****:***.**** .***** .:*: *:**.:::: *. *: *** :**  *** :

R norvegicus        LLQDKWDRFVKRIFYFNFFVYCLYMIIFTAAAYYRPVEG------LPPYKLKNTVGDYFR 474
O mykiss            LLEEKWDKFAARMFFLNFLVYLVYLSVFTAVAYYRKKG-------TPPFTLEHTRQEYLR 450
S salar             LLEEKWDKFAARMFFLNFLVYLVYLSVFTAVAYNRKKG-------TPPFTLEHTRQEYLR 449
P nyererei          LLEEKWNRFASRMFFFNFLSYLVYLIIFTLLAYYKKES-------MPMLHINLKTDDHLY 442
D rerio             LIEEKWDQFAHRMFLFNFIVYVIYLFIFTASAFYHEEGKDYANQTKPPYLYAKSREGYLL 442
                    *:::**::*. *:* :**: * :*: :**  *: :           *      .   ::

R norvegicus        VTGEILSVSGGVYFFFRGIQYFLQRRPSLKSLFVDSYSEILFFVQSLFMLVSVVLYFSQR 534
O mykiss            LAGQLFITVGACYFFIRGILDLKRXRPSLDTLLIDGYSEILFFLQAIFFLASSVLYCCGR 510
S salar             LAGQLFITVGACYFFIRGILDLKRKRPSLDTLLIDGYSEILFFLQAIFFLASLVLYCCGR 509
P nyererei          ILAWLLTAVANCYFFLIGIIDMMRKRPKLETLLVDGYYEILFLLQGVLFLISTGLHLFGR 502
D rerio             LTGHIISITGAFYFFIRGLIDMVRKRPRFQSLIIDGYTDQLFFVQGLLFLASVVLYCYGQ 502
                    : . ::    .   ***: *:   : : ** :.:*::*.* : **::*.:::* *   *:    :

R norvegicus        KEYVASMVFSLAMGWTNMLYYTRGFQQMGIYAVMIEKMILRDLCRFMFVYLVFLFGFSTA 594
O mykiss            EEYLGFFVLCLALSWVNLLYFSRGYRHMGIYSVMIQKMILCDILRFLFVYVTFLFGFSAA 570
S salar             EEYLGFLVLCLALSWVNLLYFSRGYRHMGIYSVMIQKMILSDILRFLFVYVTFLFGFSAA 569
P nyererei          DEYLSFLVLCLALSWVNILYFSRGNEHMGIYSVMIQKMILSDILRFLFVYIVFLFGFSAA 562
D rerio             YEYLAFLVLCLALSWINLLYFSRGSKNLGIYNVMIQKMVLGEIRRFLVVYMVFLIGFSAA 562
**:. :*:.**:.* *:**::** .::*** ***:**:* :: **:.**:.**:***:*

R norvegicus        VVTLIE-----------------------DGK------NNSLPMESTPHKCRGSACK- 622
O mykiss            VVTLL---------------------MEPELPDN------NTAQPINSTDGRGRTFFLP- 602
S salar             VVTLL---------------------MEPELPAS------NTAQPINSTDGKGRTLFLP- 601
P nyererei          VVTLL---------------------KDPTADKSP-----DKELNTTNTTKSPRFLLVG- 595
D rerio             LVTLLDQESIDSGSTRDFRLSEDIPSLNPTPDSSNPQSRMTHHQPTTARDGRGRFGLTTD 622
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                                                                                                                                                                                       
R norvegicus        ------PGNSYNSLYSTCLELFKFTIGMGDLEFTENYDFKAVFIILLLAYVILTYILLLN 676
O mykiss            -TEDSCIKPTFRNISHTIMELFKFTIGMGDLEFTEGYQYKEVFYMLLISYIVLTYILLLN 661
S salar             -TEDSCIKPTFRNISHTIMELFKFTIGMGDLEFTEGYQYKEVFYMLLISYIVLTYILLLN 660
P nyererei          -LEEDCVKPTFSNISYTTLQLFKFTIGMGDMEFIQNYKYIDVFYVLLIFYIILTYILLLN 654
D rerio             NQYEVCKKPSYKNIYFTTLELFKFTIGMGDLEFTDHYKYKEVFYVLLIVYIVMTYILMLN 682
                             :: .:  * ::**********:** : *.:  ** :**: *:::****:**

R norvegicus        MLIALMGETVNKIAQESKNIWKLQRAITILDTEKSFLKCMRKAFRSGKLLQVGFTPDGKD 736
O mykiss            MLIALMSRTVEKMSLESTSIWKLQRAITILDLERSLPRCLRRRLRSGVDKDLG-TRAGEK 720
S salar             MLIALMSRTVEKMSLESTSIWKLQRAITILDLERSLPRCLRRRLRSGVDKDLG-TRAGEK 719
P nyererei          MLIALMNRTVEKLTNETTSIWKLQRAITILDMERRLPCCLKGYFRCGVEKNLN-TATG-K 712
D rerio             MLIALMNQSVEMMSVESTSIWKLQRAITTLDMEWILPKCLQGKLRSGEEKDLG-GGQE-P 740
                    ******..:*: :: *:..********* ** *  :  *::  :*.*   ::.

R norvegicus        DYRWCFRVDEVNWTTWNTNV-GIINEDPGNCEGVKRTLSFSLRSGRVSGRNWKNFALVPL 795
O mykiss            DRRWCFRVEEVNWNKWNTNL-GIINEDPGSGDTARLSPTHSS-RTLGRERSWRGFLGN-- 776
S salar             DRRWCFRVEEVNWNKWNTNL-GIINEDPGSGDTARLSPSHSS-RTLGKERSWRGFLGN-- 775
P nyererei          DRRRCFRVEEVNWNKWNSNL-VKIDEDPGCWERVQQPGTETPPRSQQRGRSWRGLFMD-- 769
D rerio             DRRWCFSVEEVNWTQWNRNMGIIINEDPG---KCTQDPSPAN---VQREPS-RGVLQT-- 791
                    * * ** *:****. ** *:   *:****         : :         . :..

R norvegicus        LRDASTRDRHATQQEEVQLKHYTGSLKPEDAEVFKDSMVPGEK 838
O mykiss            ---VSRRQHTQPQQQTQVESTEMSSLSPLNHI----------- 805
S salar             ---VSRRQHTQPQHQIQVESTEMSSLSPLSHV----------- 804
P nyererei          ---GSRRWQAY-------QSTEMTPV----------------- 785
D rerio             ---FSRRRRTQRAQTR--EGHELSPLAEASSSV---------- 819
                        * * :               .:
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TRPV4

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O. latipes       MNEGRSALLRRCHLAFSRADTLGSAG--SAASEDCKEGDAAQAEGEAAFP-LSELSQLFE 57
X. maculatus     MNEGRSALLRRCHLTR------------AAPSEDAGDGGTTQAENDAAFP-LSALSNLFE 47
O. nitolicus     MNEGRSAIFKRRHLALPKANAISSE---PSISVDLGDSEAAQPEGDGAFP-LSEFSHLFE 56
P. rubipres      MNEPRSGLLRRSHIAVSKADTLSSDCSGPAAHASANNGRTAQAEGDAAFP-LSELSQLFE 59
O. mykiss        MTEKDTPSLAVTKAALS-----------SGSEKGGGGIGEGQPDASSTYSDLSALANLFE 49
D. rerio         MTESLS---------------------VSSPPDNSAQDSSEAADGDPNFP-MSSMAALLE 38
*.*  :                     ..   .        .: .  :. :* :: *:*

O. latipes       SEDGSQSAQDTSQESALELVQPGN----PADSRQNLRTKFQGAFRKGISHPMDLFEATIY 113
X. maculatus     SEDGSQSAQDTSLDTTLEQAQPGVQPSQPSDGRQNLRMKFHGAFKKGISNPMDLLETTIY 107
O. nitolicus     SQDGSPATQDSSQESILEPAQPGH----PADSRQYLRMKFHGAFKKGISNPMDLLESTIY 112
P. rubipres      SEDASPSAQGASQ----EPAPPGQ----PPDSRQNLRMKFQGAFKKGISNPMDLLESTIY 111
O. mykiss        SEEGSQSTPDLPQDPAQNLARPGQ--LQPGDGRQNLRMKFHGAFKKGISNPMDLLESTIY 107
D. rerio         NDDVSQPT--------HELPRPGQ----QNDQKQNMRIRFPGPFKKGVPNPMDLLESDYT 86
                 .:: * .:         :   **       * :* :* :* *.*:**:.:****:*:

O. latipes       ESNVVPAPKKAPMDSLFDYGTYGNSSNQKK-RRKKLPRGKTEA--SCDI---VPNPDPPK 167
X. maculatus     ESNVVPGPKKAPMDSLFDYGTYGNASNQKK-RKKKLPRGKTEI--SCDE---SQSTDQPK 161
O. nitolicus     ESNVVPAPKKAPMDSLFDYGTYGNSSNQKK-RRKKLPKGKTEA--SCDE---SQSSDPPK 166
P. rubipres      ESNVVPGPKKAPMDSLFDYGTYRNTSNQKR-RRKKLPRGKTET--SCDE---GLAADPPK 165
O. mykiss        ESPVVTGPKKAPMDSLFDYGTYSHTNNKKH-GRKKLLRGKTEM--SCDEGVDPTGSDPPM 164
D. rerio         EY-----PKQAPMDSMFDYGTCRQINNNKKGRRKKLPRGKAEIGMSCDE-----GSPEPP 136
                 *      **:*****:*****  : .*:*:  :*** :**:*   ***       .  *

O. latipes       VMKIFNRILLFDCVSRGDPEDLEGLLEYLQVHEKRLTDEEFREPSTGKTCLPKALLNLYG 227
X. maculatus     VLKIFTRFTLFDCVSHGDPEGLQGLLEYLQSQEKRLTDEEFRELSTGKTCLPKALLNLYG 221
O. nitolicus     VVKVFNRSLLFDCVSRGDPGELEGLLEYLQSNNKRLTDEEFREPYTGKTCLPKALMNLYG 226
P. rubipres      VLKVFNRSLLFDCVSRADAEALEGLLEYLQSQEKRLTDEDFREPSTGKTCLPKALLNLYG 225
O. mykiss        VIKEFNRTLLFDGVSQADPEALSGLLEYLQGHDKRLTDEEFKEPSTGKTCLPKALLNLYN 224
D. rerio         VLKVFNRWMLFEAVSRADPRALDGLLQYLQSHEKRLTDEEFKELSTGKTCLPKALLNLHN 196
                 *:* *.*  **: **:.*.  *.***:*** ::******:*:*  **********:**:.

O. latipes       GRNNTIPLLVDIAEKTGNLREFINTPFRDVYYRGQTALHIAIERRCKHYVELLMEKGADV 287
X. maculatus     GRNETIPVLVDIAEKTGNLREFINTPFRDVYYRGQTALHIAIERRCKQYVELLMEKGADV 281
O. nitolicus     RQNNTIPVLVDIAEKNGSLREFINTPFRDVYYRGQTALHIAIERRCKQYVKLLVEKGADV 286
P. rubipres      GQNVTIPLLADIAEKTGNLREFINTPFRDVYYRGQTALHIAIERRCKPYVELLVEKGADV 285
O. mykiss        GQNDTIPLLMNIAEQTVNLHDFINTPFRDVYYRGQTALHIAIERRCKQYVELLVEKGADV 284
D. rerio         GQNDTIPILVDIAEQTGNLREFINTPFRDVYYRGQMALHIAIERRCKQYVELLVEKGADV 256
                  :* ***:* :***:. .*::************** *********** **:**:******

O. latipesHAQARGRFFEPKDEGGYFYFGELPLSLAACTNQPNIVNYLTENPHKKADLRRQDSRGNTA 347
X. maculatusHAQARGRFFQPKDEGGYFYFGELPLSLAACTNQPDIVHYLTENPHKKADMRRQDSRGNTV 341
O. nitolicusHAQARGRFFQPKDEGGYFYFGELPLSLAACTNQPDIVHYLTENPHKKADVRRQDSRGNTV 346
P. rubipresHAQARGRFFQPRDEGGYFYFGELPLSLAACTNQPDIVHYLTENPHKKADLRRQDSRGNTV 345
O. mykissHAQARGRFFQPRDEGGYFYFGELPLSLAACTNQPNMVHYLTENAHKKADLRRQDSRGNTV 344
D. rerioHAQARGRFFQPRDEGGYFYFGELPLSLAACTNQPDMVHYLTENGHKKADLRRQDSRGNTV 316
                 *********:*:**********************::*:***** *****:*********.

O. latipes       LHALVHIADNTKDNTRFLTKMYDLLLIKCTKLYPECNLEKMANNDGLTPLMMAAKLGKIG 407
X. maculatus     LHALVHIADNTKDNTRFLTKMYDLLLIKCAKLFPDCNLETVLNNDGMSPLMMAAKLGKIG 401
O. nitolicus     LHALVHIADNTKDNTRFLTKMYDLLLIKTAKLYPDCNLETVPNNDGMSPLMMAARLGKIG 406
P. rubipres      LHALVHIADNTKDNTRFLTKMYDLLLIKSAKLYPDCSLETVLNNDGMSPLMMAAKLGKIG 405
O. mykiss        LHGLVHIADNTRDNTRFLTKMYDLLLTKCAKLYPECSLEDILNNDGMSPLMMAAKLGKIG 404
D. rerio         LHALVHIADNTRDNTRFVTKMFDLLLIKCAKLYPDCNLENILNNDGMSPLMMAAKLGKIG 376
                 **.********:*****:***:**** * :**:*:*.** : ****::******:*****

O. latipesVFQHIIRREIKDEEVRHLSRKFKDWAYGPVYSSLYDLSSLETCGEEPSVLEILVYNSRNE 467
X. maculatusVFQHIIRREVKDEEVRHLSRKFKDWAYGPVYSSLYDLSSLDTCGEEPSVLEILVYNS-SE 460
O. nitolicusIFQHIIRREIKDEEVRHLSRKFKDWAYGPVYSSLYDLSSLDTCGKESSVLEILVYTSHNE 466
P. rubipresVFQHIIRREIKDEEARHLSRKFKDWAYGPVYSSLYDLSSLDTCGEEPSVLEILVYNSRNE 465
O. mykissVFQHIIRREIKDEEARHLSRKFKDWAYGPVYSSLYDLSSLDTCGEEVSVLEILVYNSRIE 464
D. rerioVFQHTIRREIKDEEARHLSRKFKDWAYGPVYSNLYDLSSLDTCGEEVSVLEILVYNSKIE 436
                 :*** ****:****.*****************.*******:***:* ********.*  *
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O. latipes      NCHEMLAVEPINELLRAKWQKFAAVTFYISVVSYLITMIIFTLVAYYHPT---EGKPPFP 524
X. maculatus    NRHEMLAVEPINELLRAKWQKFAAASFYISVVSYLISMIIFTLVAYSHPTLEEVGPPPYP 520
O. nitolicus    NRHEMLAVEPINELLRAKWNRFAAVTFYISVFSYLITMIIFTLVAYYQPT---HGKPPYP 523
P. rubipres     NRHEMLAVEPINELLRAKWQKFAAVTFYISVVSYLITMIIFTLVAYYHPT---QGKPPYP 522
O. mykiss       NRHEMLAVEPINELLRAKWQKFAAVTFYISVVSYLVTMIIFTLVAYYRPS---QGTPPYP 521
D. rerio        NRHEMLAVEPINELLRAKWQKFAAVTFYISVFSYLVTMIIFTLVAYYRPS---VGKPPYA 493
                * *****************::***.:*****.***::********* :*:    * **:.

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O. latipes      YTTSTDYLRMVGEIFTLASGIFFFLTNIKDLFLKKRPGVKSLVMDGSFQLLYFIYSILII 584
X. maculatus    YKTSSDYLRLAGEIVTLASAIFFFLTNVKNVLLKKCPEVKSLVFDGSFQLLYFIYAVLII 580
O. nitolicus    HTTSSDYWRLAGEIVTLASGIFFFLTNIKDLFLKKCPGVKSLFIDGSFQLLYFIYSVLII 583
P. rubipres     YTTSSDYLRMAGEVITLASGIFFFLTNIKDVFLKKCPGVKSLFIDGSFQLLYFVYSVLIV 582
O. mykiss       YTTSTDYLRLGGEVITLGSGVFFFLTNIKDLFLKKCPGVNSLFVDGSFQLLYFIYSLLVI 581
D. rerio        YDTTEDKVRLGGEIITVGSGLFFFVTNIKDLFLKKCPGVNSIFVDGSFQLLYFIYSVLVV 553
                : *: *  *: **:.*:.*.:***:**:*:::*** * *:*:..*********:*::*::

                ------------------------------------------------------------
O. latipes      ITAALYLSGIKAYVSVMVFALVLGWMNTLYFTRGLKLTGTYSIMIQKILLKDIFRFLLVY 644
X. maculatus    VTAALYLSGVKAYVTVMVFALVLGWMNTLYFTRGLKLTGTYSIMIQKILFKDLFRFLLVY 640
O. nitolicus    VTAALYLSGIEAYVSVMVFALALGWMNTLYFTRGLKLTGTYSIMIQKILFKDLFRFLLVY 643
P. rubipres     ISAALYLSGIEAYVSVMVFALVLGWMNTLYFTRGLKLTGTYSIMIQKILFKDLFRFLLVY 642
O. mykiss       VTAALYLSGIEAYLSVMVFALVLGWMNTLYFTRGLKLTGTYSIMIQKILFKDLFRFLLVY 641
D. rerio        GSAALYLSGIEAYVSVMVFALTLGGMNPLYFTRGLKLTGTYSIMIQKILIKDLFRFLLVY 613
                 :*******::**::******.** **.**********************:**:*******

                ------------------------------------------------------------
O. latipes      LLFMIGYASALVSLLTVCPTSGPECEG--GCPTYPKCREPGTFSTFLLDLFKLTIGMGDL 702
X. maculatus    VLFMIGYASALVSLLPVCPT---ESAK--NSTTY--CRNPDTFSTFLLDLFELTIGMGDL 693
O. nitolicus    VLFMIGFASALVSLLTVCPPPGTVCNG--SCPTYPACRDNNTFSIFLLDLFKLTIGMGDL 701
P. rubipres     VLFMIGYASALVSLLTVCPPPGTECDG--GCPTYPKCRDPDTFSTFLLDLFKLTIGMGEL 700
O. mykiss       VLFMIGYASALVSLLTVCPGPEEVCPEKGGCPTYPQCRDTNTFSKFLLDLFKLTIGMGDL 701
D. rerio        VLFMIGYASALVSLLTICPNKDTCKEN---CPTYPECRDTNTFSEFLLDLFKLTIGIGDL 670
                :*****:********.:**           ..**  **: .*** ******:****:*:*

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O. latipes      E-MINSAQYPEVFLILLVTYIILTFVLLLNMLIALMGETVGQVSKESKKIWKLQWATTIL 761
X. maculatus    D-MIHSALYPGVFLILLVSYIILTFVLLLNMLIALMGETVGQVSKESKKIWKLQWATTVL 752
O. nitolicus    D-MIYSAQNPVVFLILLVTYIILTFVLLLNMLIALMGETVGQVSKESKKIWKLQWATTIL 760
P. rubipres     D-MIHSAQYPAVFLILLVTYIILTFVLLLNMLIALMGETVGQVSKQSKKIWKLQWATTIL 759
O. mykiss       D-MVSRTQYPAVFLILLVTYIILSFVLLLNMLIALMGETVSQVSKESKKIWKLQWATTIL 760
D. rerio        DNMLKGAQYPAVFLILLVTYIILTFVPLLNMLIALMGETVGQVSKESKKIWKLQWATTIL 730
                : *:  :  * *******:****:** *************.****:************:*

O. latipes      DIEHSFPVCLRRSFRVGEMVTVGKNLDGTPDRRWCFRVDEVNWCHWNQNLAIINEDPGR- 820
X. maculatus    DIERAFPVCIRKSFRAGEMVTVGKNLDGSPDRRWCFRVDEVNWCHWNQNLAIISEDPGK- 811
O. nitolicus    DIERSFPVCLRKSFRVGEMVTVGKNYDGTPDRRWCFRVDEVNWCHWNQNLAIINEDPGK- 819
P. rubipres     DIERSFPVCLRKSFRAGEMVTVGKNCDGTPDRRWCFRVDEVNWCHWNQNLAIINEDPGK- 818
O. mykiss       DIERSLPVCLRKSFRSGEMVTVGKNWDGTPDRRWCFRVDEVNWCHWNQNLAIINEDPGKN 820
D. rerio        DIERSFPVCLRRSFRVGEMVTVGKGLDGKPDKRWCFRVDEVKWSHWNQNLGIINEDPGQ- 789
                ***:::***:*:*** ********. **.**:*********:*.******.**.****:

O. latipes      -SDTSQTNG-LRQSVKGLRRDRWTTVVPRVMELSKSPQPHDLVVEMEPLTTRN------ 871
X. maculatus    -TDTSQTNG-VQPGVRGLRRDRWSTVVPRVVELSRGPRSHDLVVEMEPLTPR------- 861
O. nitolicus    -SETIQANG-LQQGVRALRRDRWSTVVPRAVELSKGSQSHDLAVEMEPLSPRH------ 870
P. rubipres     -NETCQATG-LQQGVRALRRDRWSTVVPRALELSKGPHNRDLAIEMEPLTPRH------ 869
O. mykiss       ITETQQCPGTVHQTVRGLRRDRWSTVVPRVVEQNKGPRPRDLVLEMEPLTPRHRPFAEG 879
D. rerio        -KDLSEHTQ----GGRGLRRDRWSTVVPRVVELNRG--SRDHTVEMEPLTGRHRLKSES 841
.:  :         :.******:*****.:* .:.   :* .:*****: *
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Supplemental Figure 1.

Alignment of trout TRPV1 and TRPV4 amino acid sequences with the corresponding sequences from other vertebrates.

For both TRPV1 and TRPV4 the domains were determine using InterProScan. The blue lines mark the ankyrin repeat containing domains, with the aa from the ankyrin repeats in red. The dotted line corresponds to the channel domains, with the corresponding transmembrane domains (S1 to S6 from top to bottom) delimited by the red squares. Asterisk: fully conserved residues; column: groups of strongly similar properties; period: groups of weakly similar properties.ClustalW (Supplemental Materials and Methods).

Trout TRPV1(*Oncorhynchusmykiss*; KJ135121)**:** The sequence was aligned with the corresponding sequences from *Daniorerio* (NP_001119871.1), *Pundamilianyererei* (XM_005737809.1), *Salmosalar* (NP_001133970.1) and *Rattusnorvegicus* (NM_031982.1); the rat sequence was added because it is so far the best characterized sequence among the TRP. Amino acid residues, which roles have been highlighted in the rat are marked in bold and color.**Bold/Pink and arrow**: Y653 of the rat sequence has been unequivocally associated to temperature gating; this residue is conserved in all the fish sequences displayed. **Bold/Dark brown and arrows**: The residues**N628** and **N652**located between the transmembrane domains 5-6 (*i.e.*, the pore region)mediate temperature sensitivity in the rat; none is conserved in the trout. **Q727**and **W752**located in the C-terminal end of the sequence are believed to be important for transmitting the temperature response; in the fish sequences glutamine is replaced by residues with similar properties, while tryptophan is conserved. **Bold/Green and arrows**:Residues **E600** and **E648** of the rat sequence mediate the acidic activation of the channel; **E648** is conserved in salmonids. **Bold/Blue and arrows**: the residues **S512** and **T550** of the rat sequence are important for the response to capsaicin, only serine has been conserved in the salmonids sequence, none is present in the zebrafish, which does not respond to capsaicin.**Bold/brow/underlined**: The two serine residues (**S502** and **S800**) are two identified phosphorylation sites by phospholipase C (PLC) that might contribute to channel sensitization; both are conserved in salmonids.

For details and references see text.

Trout TRPV4(*Oncorhynchusmykiss*; KJ135122) sequenceis aligned with the sequences from *Daniorerio*: (XM_001042730.1), *Oreochromisniloticus*: (XM_003451734.2), *Xiphophorusmaculatus*: (XM_005804073.1), *Takifugurubripes*: (XM_003974984.1) and the predicted sequence from *Oryziaslatipes* (XM_004072398.1).