

865 Figure 2—figure supplement 1. Sketch of Markov Decision Processes model and predictions for stinging.

- A) Directed graph representing the Markov Decision Process for predatory stinging (*top*) including states of
 starvation s, actions a, and transitions to adjacent states depending on the probability to catch prey p(a).
 Graphical representation of the result that optimal predatory stinging increases with starvation (*bottom*).
- 869B)Directed graph representing the Markov Decision Process for defensive stinging (top) including states of
safety and danger L and D, actions a, and transitions between L and D depending on the probability to
successfully stinging the predator p(a). Graphical representation of the result that the optimal defensive
stinging decreases with starvation (bottom).



Figure 2—figure supplement 2. Optimal policy predicted by Bellman's theory for the MDP sketched in Figure
 2—figure supplement 1A.

Left: three choices of concave reward functions r(s'): $r(s) = k \cos(s\pi/2)$, upper left; r = k(1 - 50s2) + 60, middle left; $r = k \tan - 1(5(1 - s)/(\pi/10))$, lower left. Solid and dashed lines correspond to two choices of the parameter k for each reward as in the legend. The cost of full dischare is constant $c_0 = 1.5$ and the likelihood of successful discharge is $p = p_M a(2 - a)$ with $p_M = 0.6$.

Right: the asymptotic solution for the optimal policy $a^*(s)$ (solid and dashed lines matching the corresponding reward on the left) reproduces well the numerical solution obtained from solving Bellman's Equation (1) with the value iteration algorithm (crosses and circles correspond to the solid and dashed rewards on the left). Optimal nematocyst discharge increases with the starvation state, independently on the shape of the reward function.

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Figure 2—figure supplement 3. Sketch of theoretical prediction for predatory stinging with increasing cost. Similar to Figure 2-figure supplement 1A bottom, for the case where the cost per nematocyte varies with starvation $c = c_0(s)a$. Moderate increase in the cost per starvation (dashed light-blue line) do not affect the qualitative results as the green curve still intersects the light-blue curve for increasing values of a^* (marked by dashed dark-blue line). More dramatic increases of cost with starvation (light-blue dotted line) do lead to a decrease in predatory stinging with starvation as the intercept now moves backward with increasing s (marked by dark-blue dotted line).

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915 Figure 2—figure supplement 4. Effects of a moderately vs dramatically increasing cost with starvation.

For a constant cost of full discharge or moderately increasing cost with starvation, predatory stinging always increases, whereas defensive stinging decreases or stays constant (results discussed in main text, **Figure 2**, and reproduced here for comparison, red and blue curves in Panels A-C. For predation, we use desirability 2 from **Figure 2B**). When the cost function increases dramatically with starvation (panel A, yellow and green lines), defensive stinging keeps decreasing with starvation (panel C, right), but now also predatory stinging decreases with starvation (panel B, right, yellow and green lines). Results are obtained with numerical simulations.

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928 929 Figure 2-figure supplement 5. Modulation of Nematostella and Exaiptasia stinging is not due to changes in

930 the abundance of nematocytes.

- 931 Nematocytes were highly abundant in tentacles from Nematostella (top) and Exaiptasia (bottom) before and after
- 932 starvation. Representative of n = 3 animals. Scale bar = $50 \mu m$.



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976 Figure 4—figure supplement 1. Transcriptomic and molecular analyses of *Exaiptasia* β subunit isoforms.

- 977A) mRNA expression (transcripts per million, TPM) of voltage-gated calcium (Ca_V) channel α and β subunits978in *Exaiptasia* tentacle (nematocyte abundant, blue), body (nematocyte non-abundant, red), bleached (minimal979symbionts) tentacle (light blue), bleached body (light red) tissues. The Ca_V α subunit was identified by980homology to the sequence of the cnidarian Ca_V2.1 homolog found enriched in *Nematostella* nematocyte-rich981tissues (Weir et al., 2020). NompC, the putative mechanoreceptor in *Nematostella* nematocytes (Schüler et982al., 2015; Weir et al., 2020), was also detected in *Exaiptasia* tentacles.
 - B) Representative plots of fluorescent amplitude across event number (droplet events) from amplification of unique regions of EdCa_vβ1 (Ch1, *Top*) and EdCa_vβ2 (Ch2, *Bottom*) sequences using droplet digital PCR (ddPCR, Bio-Rad Laboratories). Individual lanes correspond to tentacle RNA, body RNA, acontia RNA, and no template control (NTC). Blue and green points indicate positive PCR droplets after thresholding and gray points indicate negative droplets.
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Figure 5—figure supplement 1. Voltage-dependent activation of Ca_v channels is conserved across cnidarian β subunits.

1017 A) *Top*: Voltage-gated currents from heterologously-expressed chimeric Cavs with the indicated β subunits elicited by voltage pulses to -120mV (no current, black) and 0mV (colored). Abbreviations of species: Nve, *Nematostella vectensis*; Ed, *Exaiptasia diaphana*; Cc, *Cyanea capillata* (jellyfish); Pp, *Physalia physalis* (siphonophore); Ch, *Clytia hemisphaerica* (jellyfish); Cx, *Cassiopea xamachana* (jellyfish); r, *Rattus norvegicus. Bottom*: Voltage-gated currents elicited by a maximally activating voltage pulse following 1 s pre-pulses to -110 mV (max current, black), -50 mV (colored), or 20 mV (inactivated, no current, black).
 1023 Scalebars = 100pA, 50ms.

1024B) Activation and inactivation curves for heterologously-expressed chimeric Cavs with different β subunits.1025Activation: $rCa_V\beta 2 V_{a1/2} = -19.76 \pm 1.16mV$, n = 12; NveCa_Vβ $V_{a1/2} = -23.07 \pm 1.16mV$, n = 5; EdCa_Vβ11026 $V_{a1/2} = -18.27 \pm 1.08mV$, n = 8; EdCa_Vβ2 $V_{a1/2} = -14.22 \pm 1.46mV$, n = 5; CcCa_Vβ $V_{a1/2} = -18.47 \pm 1.59mV$,

- 1027 n = 6; $CxCa_V\beta V_{a1/2} = -28.89 \pm 1.54mV$, n = 15; $PpCa_V\beta V_{a1/2} = -15.29 \pm 1.23mV$, n = 10; $ChCa_V\beta V_{a1/$
- 1028 $10.30 \pm 1.04 \text{mV}, n = 12. \text{ rCav}\beta 2 \text{ V}_{i1/2} = -2.98 \pm 13.51 \text{mV}, n = 12; \text{ NveCav}\beta \text{ V}_{i1/2} = -68.93 \pm 1.53 \text{mV}, n = 5;$
- 1029 $EdCa_{V}\beta 1 V_{i1/2} = -56.76 \pm 3.18 \text{mV}, n = 8; EdCa_{V}\beta 2 V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ subunit } V_{i1/2} = -18.84 \pm 8.00 \text{mV}, n = 5; CcCa_{V}\beta \text{ su$
- $1030 \qquad \qquad 47.81 \pm 5.57 \text{mV}, \text{n} = 6; \text{CxCa}_{\text{V}}\beta \text{ V}_{\text{i}1/2} = -87.75 \pm 1.72 \text{mV}, \text{n} = 15; \text{PpCa}_{\text{V}}\beta \text{ V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{n} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -99.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -90.80 \pm 0.92 \text{mV}, \text{m} = 10; \text{m} \text{V}_{\text{i}1/2} = -90.80 \text{m} \text{V$
- 1031 ChCa_V β V_{i1/2} = -70.25 ± 4.67mV, n = 12 cells.
- 1032 C) Diagram of $Ca_V \beta$ subunit domain swaps and the length of the N-terminus swapped in amino acids.
- 1033 **D)** Cnidarian Ca_v β N-termini do not greatly affect voltage-dependent activation of Ca_v channels containing
- 1034 EdCav β 2. Voltage-dependent activation (V_{a1/2}) of heterologously-expressed Cavs with WT EdCav β 2, β
- 1035 subunits from the indicated cnidarians, and chimeras with their N-termini on EdCa_V $\beta 2$, p = 0.5830 for
- 1036 average $V_{i1/2}$ values across mutant beta subunits, one-way ANOVA with Bartlett's test and post-hoc Tukey
- 1037 test, n = 4-7 cells. Data represented as mean \pm sem.

1038 Figure 5—supplement table 1: Wild type and Chimeric $Ca_v\beta$ amino acid sequences.

| Protein name | Amino Acid Sequence |
|----------------------------|---|
| Exaiptasia | MAQDFALSNRDIELDSLEHDSTGSSTPSEIQRWHMYSDRSGRVVCKDSEPAYRASD |
| diaphana | TSSVDEDKETSRRELERRAWEALQAARSKPVAFAVRTNIAYEGSEDDDSPVHGAA |
| Ca _v β1 | VSFNVKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPSKLKSLQQVGPATGGRPV |
| $(EdCa_V\beta 1)$ | RGSSKTVFHFNDMVNQAQSPTNTSPSRHSSASVDAENGMEYNEEEQHSPTSPTSKT |
| | STLPRSASGNTVTSQSAPGQQGKSKKAFFKKQEQLPPYDVVPSMRPIVLVGPSLKG |
| | YEVTDMMQKALFDYMKHQFSGRVLISRVTSDISLAKRSNLANPSKRNIIERSNSKN |
| | SGLAEVQQEIERIFELSRGLNLVVLDCDTVNHPTQLAKTSLAPLVVYVKISAPKVLQ |
| | RLIKTRGKTQSRALNVQLVAAEKLAQCSEDLYDLILDETQLQDACHHLGEFLESY |
| | WRATHPPNQPGSRPPNMQQSTPQYNVIEAGERPSVYL |
| Exaiptasia | MGNTDSVQSFTKDSEPAYRASDTSSVDEDKETSRRELERRAWEALQAARSKPVAF |
| diaphana | AVRTNIAYEGSEDDDSPVHGAAVSFNVKDFLHVKEKFNDDWWIGRVVKEGCDIG |
| Ca _v β2 | FIPTPSKLKSLQQVGPATGGRPVRGSSKTVFHFNDMVNQAQSPTNTSPSRHSSASV |
| $(EdCa_V\beta 2)$ | VDAENGMEYNEEEQHSPTSPTSKTSTLPRSASGNTVTSQSAPGQQGKSKKAFFKKQ |
| | EQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALFDYMKHQFSGRVLISRVTSDI |
| | SLAKRSNLANPSKRNIIERSNSKNSGLAEVQQEIERIFELSRGLNLVVLDCDTVNHPT |
| | QLAKTSLAPLVVYVKISAPKVLQRLIKTRGKTQSRALNVQLVAAEKLAQCSEDLY |
| | DLILDETQLQDACHHLGEFLESYWRATHPPNQPGSRPPNMQQSTPQYNVIEAGERP |
| | SVYL |
| Cyanea | MWFGTKKSKDSERRKRQPIDVYREQALSVNPAYIWGDDLDSRKTSGTSSEYGEDD |
| Capillata | IEQIRVQALEQLAAARVKPVAFAMRANYGYNGAEDDDSPIHGMALSFEPKDFLHI |
| Ca _v β | KEKFNNDWLIGRVVREGCDIGFIPSPSKLESLRLSGLAGRKMRQSSTSSNLHLQDAF |
| $(CcCa_V\beta)$ | SASSPSEDRQNSFDDESLPPSSPVKSVNPGVIGQPNSKTAKKGIFKKNDSLPPYDVV |
| | PSMRPVIFVGPSLKGYEVTDMMQKALFDYLKHRFQGRIVITRVTADISTAKKSTIQ |
| | NLAKKPIIKERGATQASQEVNQEIERIFELCRNLQLVVLDSYTVNYPAQVAKTSLAP |
| | IIVYIKISSPKVLTRLVKSRGKSQSKNLNVQLVAAVKLGQCSEDMYDVVLDETQLE |
| | DACEHLGEFLEAYWRAAHPSQSNFGAAGAPGSFTANGQPVVVNYNSMDPFSAQS |
| | |
| Physalia | MV1ASYNVPLDN1SA1HSFNYPHAFLL1HSSCSYHSNEGFINSS1EVDIVDENDFKP |
| physalis Ca _v p | LFEGNSNEPHCQKKVISFSSLLDNVVAPIWYFFEMGDEFDSKKISGISSEYGEEDVE |
| (PpCa _v p) | ALKVQALEQLAAAASKPVAFAVKANYGYNGSEDEDCPVNGMAVSFEAKDCLHIK |
| | VKFNNDWWIGKVVKEGHDIGFIPSASKLDNIKQSGISGKLKLKQS51S5NMINLEDQ |
| | SQPLSKEQDNKSPSEEKGISFDDDSPASPLKNPSGSSLIANNNNNNSNIASNVNNSQ |
| | PKUKKUIFKKSENLPPYDVVPSMKPIIFVUPSLKUYEVOOEIEDIEELOPSMOLV |
| | |
| | VLDCESINHPSQVANISLAPIIAWIKIASPNVLIKLIKSKUKSQINHLNFQLVAAENL |
| | |
| Cassionaa | |
| Cassiopea | M = V = V = V = V = V = V = V = V = V = |
| C_{2} B | |
| Cavp | |
| (CACavp) | DVVPSMRPIII VGPSI KGYFVTDMMOK AI EDEI KHDEDGDIGITDVTADIGI AKDGV |
| | I NNDSKHIIJERSNTRSSI AEVOSEJERIJELARTI OJ VAL DADTINHDAOJ SKTSLAR |
| | IVVIKITSPKVI ORI IKSRGKSOSKHI NVOIAASEKI AOODDEMEDIII DENOI EDAO |
| | FHI Δ FYI FΔ YWK Δ THPPSSTPDNDI I NRTM Δ ΤΔ ΔΙ Δ Δ CDΔ DVCNI ΛCDVI Δ CCDΛ |
| | PI DRATGEHASVHEYPGEI GOPPGI YPSNHPPGRAGTI RAI SRODTEDADTOGON |
| | SAYTEPGDSCVDMFTDPSEGPGDPAGGGTPPAROGSWEFFEDVFFEMTDNRNR |
| | GRNK ARYCAEGGGPVLGRNKNELEGWGOGVYIR |
| | |

| Clytia | MMHGSOTEPAISSMTSERNHKNI, SHGSRTSINSORSTNKK VNSHVSEDESTA APSS |
|----------------------|--|
| hemisphaerica | KKPGALSA AGGKKSVDDNESSSVI OTVEALRWOKKA AOKKKKPDDEOOMYMHS |
| Cauß | MSGALGSUGDEEDGRKTSGTSSEVGDGEDLEALRU ALEKU OAARTRPVAEAVRA |
| (ChCavB) | NYGYNGSEDDDSPVHGMAVSEEKDDCI HIKDKENKDWWIGRVVKEGHNIGEVPS |
| (ChCayp) | PDKI ESIROSGVSGKI KMROSSTSSNMNI HDDPONORSPI GEAGGNNSEDDETVN |
| | COVENING SOLUTION SOLUTIAN SOLUTIAN SOLUTION SOLUTION SOLUTIAN S |
| | SI VKIVSTESINI INININI INSENAQKOKKOI KKINEQEHI I IVII SIVIKI III VOI SE VCVEVTDMMOVAI EDVI VIDECEDIIETDVNADICI AVDONI NNONDODNEDVVCNI |
| | COACLAEVOEEVNDIEELCDSSOLVULDCDTINNDSOURTSLADUVAIVIASDVULT |
| | DUKADLAE VQEE VINKIFELUKSSQL V VLDUDI IININPSQVIK I SLAPI I VAINIASPK VLI DUKADUKADVKIH NIOMIA ADKI SOCNEEMEDVVI DENOLEDA CEHL CEELEAV |
| | KLIKSKUKINŲ V KILINIŲ IVIIAADKLSŲ CINELIVIED V V LDEINŲ LEDACEILUEFLEA I WIDA AVIDOA OECI, ISOENIOCEUNOCODNICA OVNOVOTDODNI, DTAOV |
| Norman de la de 11 m | |
| Nemalosiella | MEPEPGLSEQUIELDSLEQV51A55FH5DIQKH1NDGKEA5KFIGADDFNKD5DPA1 |
| vectensis | KASDISSIEEDKEISKKELEKKAWDALQAAKSKPVAFAVKINLKIDUSEDDDSPVH |
| cacnb2.1 | GAAVSFEAKDFLHVKEKFNDDWWIGKVVKEGCDIGFIPIPSKLKSLQQIGGIASGK |
| (ΝνΕβ) | GMRNSKRDVFQFDMVNQAQSP1N1SPSRHSS1SVDAENGVEYDDDQQSP1SP1NK |
| | TLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLK |
| | GYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTNMSNPGKQTIMERTKN |
| | KNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVYIKIAAPKV |
| | LQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEETQLDDACEHLGEFLES |
| | YWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVYL |
| Rat cacnb2a | MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK |
| (Rat β) | AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL |
| | VKEGCEIGFIPSPVKLENMRLQHEQRAKQGKFYSSKSGGNSSSSLGDIVPSSRKSTPP |
| | SSAIDIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKRMPFFKKTEHTPPYDVV |
| | PSMRPVVLVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLN |
| | NPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIV |
| | YVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDA |
| | CEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTD |
| | RSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRD |
| | SAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDH |
| | NECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQ |
| Rat β with | MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK |
| NVE Hook | AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL |
| | VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS |
| | RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG |
| | LFKKQEQLPPYDVVPSMRPVVLVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITR |
| | VTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTIN |
| | HPAOLSKTSLAPIIVYVKISSPKVLORLIKSRGKSOAKHLNVOMVAADKLAOCPPO |
| | ESFDVILDENOLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTL |
| | ASNSOGSOGDORTDRSAPRSASOAEEEPCLEPVKKSOHRSSSATHONHRSGTGRGL |
| | SROETFDSETOESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREP |
| | RHRTRDMGRDODHNECSKORSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIR |
| | 0 |
| NVE ß with | NEPEPGL SEODIEL DSLEOVSTASSFHSDIOR HYNDGREASRFIGADD FNRDSDPAY |
| Rat Hook | RASDTSSIEEDRETSRRELERRAWDALOAARSKPVAFAVRTNLRYDGSEDDDSPV |
| | HGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLOHEOR |
| | AKOGKFYSSKSGGNSSSSI GDIVPSSRKSTPPSSAIDIDATGI DAFENDIPANHRSPK |
| | PSANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPIVI VGPSI KGYFVTDMMOK |
| | ALL DEMKHRESGRVI LARVTSDISL AKRTNMSNPGKOTIMERTKNKNTGI AFVOO |
| | FIERIFEI ARGI NI VVI DOFTVNIHOTOL AKTELADMIVVIKIAADKVI ODI IKTOOKE |
| | OSPNI SIOLVA AEKI AOCSEDMVDI VI FETOL DDACEHI CEELESVWD ATUDDNO |
| | PGSRPPNVOPSNSTPOVNVIEGGERPSVVI |
| Pat B with | |
| NVE CV | ΙΊΙ ΥΥΟΌΟΕΥΠΙΝΝΝΥΝΥΘΙΟΘΑΡΟΤΙΟΝΕΟΡΥΘΕΕΡΙΝΕΑΥΚΚΕΑΕΚΥΑΥΑU ΑΚΤΚΟΥΛΕΛΥΡΤΝΙΛΡΥΘΑΛΟΕΡΡΙΟΙΟΥΡΩΜΑΙΩΕΕΛΥΡΕΙ ΠΥΛΕΚΕΝΙΝΡΙΔΙΩΩΟΙ |
| INVEUK | AT ITT VAFA VT IN VT I SAAQEDD V F V POMAISFEATDFLH V KEKFINND W WIGRL |

| domain VKEQCEIGFTISTVALEDNMLQHEQKARQUERY TSAKSOGNSSSSLDJUYSSKKS JF PSSADIDATGLDAEENDIFANIRSYKPSANSVTSPISKEKARMPFFKKTEHTPYDV VPSMRPIVLVGPSLKGYEYTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTN MSNPCKQTIMERTKNKNTGLAEVQQEIFRIETI-ARGLNI.VVLDCFTVNHPTQLAKT SLAPMIVYIKIAAPKVLQRLIKTRGKSOSRILSIQLVAAEKLAQCSEDMVDLVLEET QLDDACEHLGEFLSSVWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVL MEPEPGLSEQDIELDSLEQVSTASSTHSDIQENTYNDGREASRFIGADDFNRDSDPAY Rat GK RASDTSSIEEDRETSRRELERRAWDAI.QAARSKPVAFAVRTNLRYDGSEDDSPV domain HGAAVSFEAKDFLHVKEKFYDDWWGRVVKEGCDIGFTDYFNKLKSLQQIGGTASG RGMRNSKRDVFQFDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTN KTLPRSASGTTVSSQFGTATGTQGFKKGLFKKGCIFKWCDZBACHLADYLEAY KSGEGSQAHLLNVQWAADKLAQCPPQESTPULDENQLEACEHLADYLEAY WKATHPPSSNI.PNPLI.SRTLATSTLPI.SPTLASNSQGSQGDQTDRSAPRSASQAEF EPCLEPVKKSQHRSSATHQNIRSGTGGGLSAGGGETPSSETGSSRDSAYVEPKEDYS HEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHK SKDRYCDKEGFUTSSKLSLQQIGGTEPTSSTDSDSVEVEDDSWVIRQ Rat 5' on NVE β MQCCGLVHRRRVKVSGSADSTSRSPSDSDVSIEEDREAVRREAERQAQAQLEK NVE β MQCCGLVHRRRVKVSGSADSTSRSPSDSDVSIEEDREAVRREAERQAQAQLEK NVE β AKTRPVAFAVRTNLRYDGSBDDSPYBRINKTITPSSASGTTVSSQCTATGTQGKFKKG LFKKQEQLPPYDVVSMRPVLVGPSLKGVEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNNSNPGQTTMERTKNNNTGLAEVQQEERFFELARGLNLVVLD CCCLIVHRRRVKYGGADSTSRPSDSDVSIEEDREAVRR | 1 ' | VWEGGEIGEIDEDWWLENNMLOUEODAWGGWCGGWGGGGGGGGGGGGGGGGGGGGGGG |
|--|---------------|--|
| PSSAIDIDATGI DALE-NIJPANIHKSPKPSANSV ISPHSKERKMPT-KK THTPPT/DJAKT VPSMRPTVLVGPSLKQVEYTDMMQKALLDEMKIRFSGRVLLARVTSDISLAKKIN MSNPCKQTIMERTKNKNTGLAEVQQEIERIFELARGI.NLVVLDCETVNHPTQLAKT SLAPMIVYUKIKALRVU/QRLIKTRGKSQSRNLSJOLVAAEKLAQCSEDMYDLVLEET QLDDACEHLGFELSSYWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVYL NVF β with MEPPFQI SEQDIELDS LQVSTASSHISDIQRHYNDGREASRFIGADDFNNDSDPAY Rat GK RASDTSSIEEDRETSRKELERRAWDALQAARSKYVAFAVRTNLRYDGSEDDDSPV domain HGAAVSFEADDH JVKEKFNDDWWGRVVKEGCDIGFIPTPSKLKSLQUGGTASG RGMKNSKRDVFQFDMVNQQQSPTNTSPSRHSTSVDAENGVEYDDDQQSPTSPTN KTLPRSASGTVSSOPGTATGTQGKPKKGLFKKQEQLPYDVVPSMRPVVLVGPSL KGYFVTDMMQKALFDFLARTQCVLDADTINIPAQLSKTSLAPHVYVKISSPKVLQRL KSSLAEVOSEERRIFELARTLQLVVLDADTINIPAQLSKTSLAPHVYVKISSPKVLQRL KSSGRSQAKHLNVQMVAADKLAQCPPOFSFDVILDFSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNIREESRISSNGHRIRREPRIHTRDMGRQDDHNCCSKQRSRHK SKDRVCDKFGEVISKRSPAGEWNDVYRQ WKATHFPSSNLPPPLLSRTLATSTLYLDSLASGGSGODORDRSAPRSASQAEE FPCLFPVKKSQHRSSSATHQNHRSGTGRGI SRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNIREESRNGHRINDVYRQ Rat 5' on MQCCGLVFRRVVSYGSADSYTSRPSDSDVSLEEDRAVRREAERQQQAQLEK KATKPVAFAVTRUKYDOSEDDDSRLSEQAKGRNKKDVFQFDMVNQAQSPTNTSPS RAtSTSVDAENGVEYDDDQQSPTSTINKTLPRSASGTTVSSQPCTATGTQCKFKG L | domain | VKEGCEIGFIPSPVKLENMRLQHEQKAKQGKFYSSKSGGNSSSSLGDIVPSSKKSIP |
| VPSMRPIVLVGPSLKGYEVTDMMQKALLDEMKHRESGRVLLARVTSDISLAKRTN MSNPGKQTIMERTKNKNTGLAEVQQEIERHELARGLNLVVLDCETVNHPTQLAKT SLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMVDLVLEET QLDDACEHLGEFLESYWRATHIPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVL MEPEFGLSEQDIELDSLEQVSTASSTHSDIQCHYNDGREASRFIGADDFNRDSDPAY Rat GK RASDTSSIEEDRETSRRELERAWDALQAARSKPVAFAVRTNLRYDGGEGRFSVL domain MEPEFGLSEQDIELDSLEQVSTASSTHSDIQCHYNDGREASRFIGADDFNRDSDPAY RATGK RGMRNSKRDVQFDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTN KTLPRSASGTTVSSQPGTATGTQGRPKKGLEKKQEQLPYDVVPSMRPVLVGPSL KGYEVTDMMQKALPDFLKHRPEGRISTIRVTADISLAKRSVLNPSKHAIERSNTR SSLAEVQSEIRHFLARTIQLVVLDADTINNPAQLSKTSLAPIVVYVSSRSVLQRL KSRGKSQAKHLNVQMVAADKLAQCPPQESPUDLEDACEHLADYLEAY WKATHIPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEE EPCLFPVKKSQHKSSSATHQNHRSGTGRGLSRQETEDSETQESRDSAYVPKEDYS HEHVDRYVPHREHNIREESHSSNCHRHREPRHRTRDMGRDQHNECSKQRSRHK SKDRYCDKEGEVISKRRSEAGEWNRDYYIRQ Rat 5' on MQCCGLVHRRRVRYSGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFFAKDFLHVKEFKNDDWWIGRV VKEGCDIGFPTPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTINKTLPRSASGTVTSSQPGTATGTQGKFKKG LFKKQEQLPPDVVPSMRPIVLVGPSLKGVETDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKLAAPKVLQRLIKTRGKSQSRNLSIQLVAAELAQ CSEDMYDLVLEETQLDDACEHLGFFLESYWRATHPPNQFGSRPFNVQPSNSTPQY VVIEGGRFPSVYL Rat 5' + SH3 MQCCGLVHRRRVVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK AKTKPVAFAVRTNYRSAAQEDDYPVPGMAISEFAKDFLHVKEKFNDDWWIGRL VKEGCEGIFIPSFKLKSLQQUGGTASGRGMRNSKRDVVQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTINKTLPRSASGTTVSSQCFTATGTQGKFKKG LFKKQEQLPPPDVVPSMRPVLVQFSLKGPKVDMASRDVAQAQELFMVQASSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQCFTATGTQGKFKKG LFKKKQEQLPPPDVVPSMRPVLVQFSLKGPKVDMASRDVQVPSNSTPQY VVIEGGRFPSVYL NVE β <td></td> <td>PSSAIDIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKRMPFFKKTEHTPPYDV</td> | | PSSAIDIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKRMPFFKKTEHTPPYDV |
| MSNPGKQTIMERTKNIKNTGLAE/QQEIERIFELARGLNI.VVLDCETVNHPTQLAKT SLAPMIVYTKIAAPKVLQRI.KTRGKSQSRNI.SIQLVAAEKLAQCSEDMYDLVLEET QLDDACEHLGEFLESYWRATHPENQPGSRPPNVQPSNSTFQYNVUEGEDMYDLVLEET MFPEPGLSFQDIELDSI.EQVSTASSFHSDIQRHYNDGRASRFIGADDPRRDSDPAY Rat GK RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPV domain HGFAVSFEAKDFLHVKEKFNDDWWIGRVKEGCDIGFIPTPSKLKSLQQIGGTASG RGMRNSRDVFQFDDWVQAQSPTNTSPSRHSTSVDAENGVEYDDDQQSFTSPTN KTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPVVLVGPSL KGYEVTDMMQKALFPFLKHRFFGRISITRVTADISTSVDAENGVEYDDDQQSFTSPTN KTLPRSASGTVVSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPVVLVGPSL KGYEVTDMMQKALFPFLKHRFFGRISITRVTADISTSVDAENGVEYDDQQSFTSPTN KTLPRSASGTVVSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPVVLVGPSL KGYEVTDMMQKALFPFLKHRTRDVTRVDSSGSQGQDQTDRSAPRSASQAEE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREINHRESSISSAGHRINEPRHRTRDMGRDQDINECSKQRSRISSQAEE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETTMSDQGRTDRSAPRSASQAEE FVCLEFVKSQHRSSSATHQNHRSGTGRGLSRQETTVSDQGTATGTQGCKPKKQ KKGCLPPYDVPYSMRPVLVGPSLKGYEVTDMMQKALDFMKHRFGRVLIA NVE β MQCCGLVHRRWRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK NVE β MCCGGLPPTYVPSMRPVLVGPSLKGYEVTDMMQKALDFMKHRFGRVLIA NVE β MQCCGLVHRRWRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK NVE β MCCGGLVHRRWRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK <td></td> <td>VPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTN</td> | | VPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTN |
| SLAPMIVYIKIAAPKVLQRLIKITRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEET QLDDACEHLGEFLESVWRATHPRNQPGSRPPNVQPNNVPGSRFPQYNVIEGGERPSVYL NVE β with MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY Rat GK RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPV IGANVSFEAKDFLHVKEKFADDWWIGRVVKEGCDIGFIPTPSKLKSLQQGGTASG RGMRNSKRDVPQFDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQSSFTSPTN KTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPVVLVGPSI. KGYEVTDMMQKALFDFLKRFEGRISTRVTADISLAKRSVLNNPSKHAITERSNTR SSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPITYVKISSPKVLQRL IKSRGKSQAKHLNVQWVAADKLAQCPPQESPDVILDENQLEDACEHLASVVEPKEDYS HEHVDRYVPHREHNHRESSISSNGHRHREPRHRTRDMGRQDDINECSKQRSRHK SKDRYCDKEGEVISKRRSEAGEWNRDYVIRQ Rat 5' on MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDRFAVRREAFRQAQAQLEK NVE β RKKEPVAFAVRTNLRYDGSEDDDSPTINKTLPRSASGTTVSSQPGTATGTQGRPKKG LFKKQFQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RYTSDISLAKRTMNSNPCKQTIMERTKNNKTGLAEVQQEIERIFFLARGLNLVLQ CETVNHPTQLAKTSLAPMIVYIKAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CEDMYDLVDLEETQLDDACEHLGEFLESYWAATHPNNQPGSRPNVQPSNSTPQY NVE β RATSTSVDAENGVEYDDDQQSPTSPINKTLPRSASGTTVSSQPGTATGTQGRPKKG <td></td> <td>MSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKT</td> | | MSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKT |
| QLDDACEHLGEFLESYWRATHPPNQPGSRPFNVQPSNSTPQYNVLGGERPSVYL NVE β with ME9PEQI SEQUELDSI LEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY Rat GK RASDTSSIEEDRETSRELERRAWDALQAARSKPVAFAVKTNLRYDGSEDDDSPV domain HGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPSKLSQQIGGTASG RGMRNSRDVFQEDDWVQAQSPTNTSPSRHSTSVDAENGVEYDDDQQSFTSPTN KTLPSASGTVSSQPGTATGTQGKPKKGLFKKQEQI PPYDVVPSMRPVVLVGPSI. KGVEVTDMMQKALFPFLKRFEGRISTRVTADDISLAKKSVLNNPSKHAIIERSNTR SSLAEVQSEIERIFELARTLQUVVLDADTINHPAQLSKTSLAPINYVKISSPKVLQRL KSRGKSQAKHLNVQMVAADKLAQCPPQESFDVLDENQLEDACEHLADYLEAY WKATHPYSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGQQRTDRSARPSASQAEE EPCLEPVKKSQHRSSATHQNHRSGTGRGLSRQETFDSETDESKDSAYVEPKEDYS HEHVDRYVPHREINNRESENSSNGHRHREPRHRTRDMGRDQDINECSKQRSRH SDRYCDKEGEVISKRSFAGEWRDYYRQ MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK | | SLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEET |
| ΝVE β with Rat GK MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RATGK Rat GK RASDTSSIEEDRTSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPV GAAVSFEAKDFI-HVKEKFNDDWUGRVVKGCDIGFIPTSKI.KSI.QQIGGTASG RGMRNSKRDVFQFDMVNQAQSPTNTSPSRHSSTSVDAENGVFYDDDQQSPTSPTN KTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPVVLVGPSI. KGYEVIDMMQKALFDFLKHRFEGRISITRVTADISLAKKSVLNNPSKHAILERSNTR SSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRI. IKSRGKSQAKHI.NVQWVAADKI.AQCPPQESFDVILDENQIEDACTEHLAPIYLEAY WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDBYVPHREHNHREESHSSNGHRHEPFHRTRDMGRDQDNNECSKQRSRHK SKDRYCDKEGEVISKRSEAGEWNRDYTRQ Rat 5' on NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDDSDVSLEEDREAVRREAERQAQAQLEK AXTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKNDQWIGRV VKEGCDIGFIPTSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQRSTLJQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERSYYI. Rat 5' + SH3 MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRI. VKEGCUIGHPTPNUVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEERHFELARGLNLVVLD CETVNPTPLQLATSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERSYYI. NVE 5' HSH35 VDAENGVEYDDDQQSPTSPTINKTLPRSASGTTVSSQGRTATGTQGKPKKG LFKKQEQLPPTVDVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEERHFELARGLNLVVLD CETVNPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERSYYL NVE 5' + SH3 on Rat β MFEPEGLSEQDIFLDSLEQVSTASS | | QLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVYL |
| Rat GK RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPV domain RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPV domain RGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGHPTTSKLKSUQQIGGTASG RGMRNSRDVYEDDWVQAQSTTNISPSRHSTSVDAENGVEYDDDQQSFTSPTN KTPRSASCTTVSSOPGTATGTQGKPKKGLFKKQEQLPPYDVVPSNRPVVLVGPSL KGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTR SSLÄEVQSEIERIFELARTLQIVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRI. KSRGKSQAKHLNVQMVAADKLAQCPPQESPDVLDENQLEDACEHADYLEAY WKATHPPSSNLPPNI JSRTLATSTLPI.SPTLASNSQGSQGDQRTDRSAPSSASQAFE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHRENNHRESHSSNCHRHEPPHRTRDMGRDQDINECSKQESRH NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK NVE β MQCCGLVPYDDVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLLA RvTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKLAAPKVLQRLIKTRGKSQSRNLSQLVAAEKLAQ Rat 5' + SH3 On NVE β MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK ATTKPVAFAVRTNNRYSAQEDDVPVCMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTTTSPS Rat 5' + SH3 MQCCGLVHRRRVNSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK ATT | NVE ß with | MEPEPGL SEODIEL DSLEOVSTASSFHSDIOR HYNDGREASRFIGADDENRDSDPAY |
| Mathon High Add Strandbard domain HGAAVSFEAKDFLHVKEKENDDWUGRVVKEGCDIGFIPTPSKLKSLQQIGGTASG RGMRNSKRDVFQFDMVNQAQSPTNTSPSRHSSTSVDAENGVVDDDQQSPTSPTN KTLPRASGTTVSSQPGTATGTOGKPKKGLFKKO5QLPPTDVVDPSMRPVUVGPSL KGYEVTDMMQKALFDFLKHRFEGRISTRVTADISLAKRSVLNNPSKHAIIERSNTR SSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIUVYKISSPKVLQRL IKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADVLEAY WKATHPPSSNLPNPLISRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAFE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREINNHRESNSCHRHREPRHRTRDMGRDQDHNECSKQRSRHK SKDRYCDKEGEVISKRRSEAGEWNRDVYIRQ Rat 5' on MQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVFOFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGRQTIMERTKNKNTGLAEVQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYKIAAPKVLQRLIKTGKSQSSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVEGGEFISPSVL Rat 5' + SH3 MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK on NVE β NVE GGEIFPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTNFGLAEVQEHERIFELARGLNLVLD CETVNHPTQLAKTSLAPMIVYKIAAPKVLQRLIKTGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVEGGEFISSVLI NVE 5' + MEPEPGI SEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNKTSAAQEDDDPVP PGMAISEAADDFLHVKEKFNDDWWIGRUVKEGGCGIGFPSPKLENMRLHREPRFKVLJA SANSVTSPHSKEKRMIPFKKTEHTPDVDVPSRRPVLENMRLGHEQAK KQGKFYSSKSGGNSSSSLGDIVPSSRSSTPSSAJDIDATGLAAERDIPANRSSAQAEEPDY SANSVTSPHSKEKRMPFFKKTEHTPDVVVSSRSTPSSAJDIDATGLAACKSQAKHL NVWGMAADKLAQCPPQESEDVILDENQLEAACHLANVRSAQAEEPDOFPNH | Rat GK | RASDTSSIFFDRETSRREI FRRAWDAL OA ARSKPVAFAVRTNI RYDGSEDDDSPV |
| Indiani RGMRNSKRDVFQTDMVNQQQSPTINTSPSRHSSTSVDAENGVEYDDDQQSPTSPTN KGYEVTDMMQKALFDHVNAQQSPTINTSPSRHSSTSVDAENGVEYDDDQQSPTSPTN KGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAILERSNTR SSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPHVVVLGPSL KGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAILERSNTR SSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPHVVVKISSPKVLQRL IKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAY WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGOQDQTDRSAPKSASQAEE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNHRESINSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHK SKDRYCDKEGVISKRRSEAGEWNRDVYRQ Rat 5' on MQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGFIPTPSKLKSLQQGGTASGRGMRNSKRDVFQFDMVNQASPTNTSPS RHSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDLARTNNSNPGKGTIMERTKNKNTGLAEVQEIERFHELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLSYWRATHPPNQPGSRPPNVQPSNSTPQY NVE β MQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQAEKK ANTRVAFAVRTNNSNGKQTIMERTKNKNTGLAEVQQEIERFHELARGLNLVVLD C | domain | |
| Rominissiki Dir QerDim YuQaQSFLINISSIS ND AEAGUE IDDDQQSFLSTIN KTLPRSASGTTVSSQPCTATATOGQRPKKGLFKQGEQLPPYDVVPSMRPVVLQGPL KGYEVTDMMQKALPDFLKHRFEGRISTRVTADISLAKRSVLNPSKHAILERSNTR SSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRL IKSRGKSQAKHLNVQMVAADKLAQCPQCBSTPDVILDENQLEDACEHLADYLEAY WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEE EPCLEPVKKSQHRSSSATHQNHRGGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNHRESSSATHQNHRGGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNHRESSSATHQNHRGGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNHRESSSATHQNHRGGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNNRESGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNNRESGTGRGLSRQETFDSETQESRDAAVQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVPQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVL Rat 5' + SH3 MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK AKTKPVAFAVRTNVRYSAAQEDDVPVGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTNRGLAFVQQEIERIFELARGLNLVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQFGSRPPNVQPSNSTPQY NVIEGGERPSVYL NVE 5' + 8H3 on Rat β | uomani | |
| KGYEVTDMMQKALIPDFLKMFFGRISTRVTADISLAKRSVLNNPSKHAILERSNTR SSLAEVOSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIUVVKISSPKVLQRL IKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLLAY WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETPDSETOESRDSAYVEPKEDYS HEHVDRYVPHREHNHRESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRKK SKDRYCDKFGEVISKRRSEAGEWNRDVYIRQ Rat 5' on MQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREARQAQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGHPTPSKLKSLQUGGTASGRGMRNSKRDVFQFDMVNQAQQSPTNTSPS RHSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTVSSQPCTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKILAPKVLQRLIKTRGKSQSRLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPPY NVE β AKTKPVAFAVRTNVRYSAQEDDVPVGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQUGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSTSVDAENGVYDVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEFTQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQSNSTPTY NVE β' M | | |
| KGYEVIDMMQKALFDFLKHRFEQRISTIKVIADISLAKKSVILQRL SSLAEVQSEIERIFELARTLQUVUDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRL IKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAY WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRDRSAPRSASQAEE EPCLEPVKKSQHRSSSATHQNHRSGTCRGLSRQETFDSETQESRDSAVEPKEDYS HEHVDRYVPHREHNHRESSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHK SKDRYCDKEGEVISKRSEAGEWNRDVYIRQ Rat 5' on MQCCGLVHRRRYRVSYGSADSVSLEEDREAVREAERQAQQLEK AKTKPVAFAVRTNLRYDGSEDDDSDVSLEEDREAVREAERQAQQALEK AKTKPVAFAVRTNLRYDGSEDDDSDVSLEEDREAVREAERQAQQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPTSPTNKTLPRSASGTTVSSOPGTATGTQGRFKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPCKQTIMERTKNKNTGLAEVQQEIERFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYL Rat 5' + SH3 MQCCGLVHRRRVRVSYGASDSTSRPSDSDVSLEEDREAVREAERQAQAQLEK on NVE β KKKFVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWVIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGROMRNSKRDVFQPDMVNQAQSPTNTSPS RAT 5' + SH3 MQCCGLVHRRVRVSYGASDSTSRPSDSDVSLEEDREAVREAERQAQAQLEK NVE 6' MQCCGLVHRRVRVSYGADSYTSRPSDDVSLEEDREAVREAERQAQAQAEKK VKEGCEIGFIPSPSKLKSLQUGGGTASGROMNSKRDVFQPDMVNQAQSPTNTSPS < | | KILPRSASGIIVSSQPGIAIGIQGKPKKGLFKKQEQLPPYDVVPSMRPVVLVGPSL |
| SSLAEVQSEIERIFELARTLQUVVLDADTINHPAQUSKTSLAPIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGQQRTDRSAPRSASQAEEEPCLEPVKKSQRRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRKKSKDRYCDKEGEVISKRSEAGEWNRDVYIRQRat 5' onMQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQQAQQLEKAKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPSKLKSLQUGGTASGRGMRNSKRDVFQEDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLKGVEVTDMMQKALLDFMKHRFSGRVLIARvTSDISLAKTTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVE βAKTKPVAFAVRTNVRYSAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTINTSPSRhtSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKTTNSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVVIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVEGGERPSVYLNVEGST+SMEPEPOLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPKVLENMRLQHEQAAKQCKFYSSKSGGRSSSSLGDVPSSKSVLDNTSKSKLAPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVXEKFNDDWWIGRLVKEGCEIGFIPSPVVLENMRLQHEQAAKQKKFYSSKSGGRGISSSSLGDVSSSSGQDQRTDRSAP | | KGYEVIDMMQKALFDFLKHRFEGRISIIRVIADISLAKRSVLNNPSKHAIIERSNIR |
| IKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACHLADTLEAY WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDVS HEHVDRYVPHREHNHRESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHK SKDRYCDKEGEVISKRRSEAGEWNRDVYIRQRat 5' on NVE βMQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGFIPTPSKLSI.QQIGGTASGRGMRNSKRDVPQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKFKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVVIKIAAPKVLQRI.KTRGSQSRNI.SIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSV1LRat 5' + SH3 on NVE βMQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWVIGRL VKEGCEIGHPSPSKLKSLQQIGGTASGRGMRNSKRDVPQEDMVNQQSPTNTSPS RHSSTS VDAENGVEYDDDQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTLAKSLAPUVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTLAKSLAPUVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKGCGCEIGFPSPVVLENMRLQHEQRA KQGKFSSKSGGNSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKERMPFFKKTEHTPPVDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDELKHRFEGRISTRVTADISLAKRSVLNPSKHAIBENSTRSLAEVQSEIERF ELARTLQLVVLDADTINHPAQLSKTSLAPIUVYKISSPKVLLENMRLQHEQRA KQGKFYSSKSGGRSSSLGDIVPSSRKSTPNSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKERMPFFKKTEHTPPDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDELKHRFEGRISTRVTADISLAKRSVLNPSKHAIBENDFANRSKDRYCDKEGEV ISKRRSEGGEWNRDYYIRQNVE 5' on Rat βMEPEPGLSEQUELSDLEQVSTASSFHSD | | SSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRL |
| WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQDQDRTDRSAPRSASQAEE EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVHREHNNREESHSSNGHRHREPRHRTDMGRDQDHNECSKQRSRHK SKDRYCDKEGEVISKRRSEAGEWNRDVYIRQRat 5' on NVE βMQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPVDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSNLSIQLVAAEKLAQ QSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSYVLRat 5' + SH3 on NVE βMQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAQEDDVPVGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLETQLDDACEHLGEFLESYWRATHPPNQPGSRPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' + SH3 on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPV4FAVRTNVRYSAAQEDDVPY POMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSRSVLADDTINHPAQLSKTSLAPIVVLVGSSKVLQALDFDMHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALPDFLKHRFEGRISTIRVTADISLAKRSVLNNPSKHAIIERSNTRSLAEVQSEIERIF EAASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPY PRLLSRTLATTSLPLSPTLASNSQGSQDQRTDRSAPRSAQAEEEPCLEPVKKSQH NVEGSEIERIF EAASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPY NVIEGGERPSVYLNVE 5' on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRA | | IKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAY |
| EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS HEHVDRYVPHREHNIREESHSSNGHRHREPRHRTRDMGRDQDHNECSSQRSRHK SKDRYCDK5GCVISKRSEAGEWNRDVYIRQRat 5' on NVE βMQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSYYLRat 5' + SH3 on NVE βMQCCGLVHRRRVRVSYGSADSYTSRPSDDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQUVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPNVQPSNSTPQY NVIEGGERPSYYLNVE 5' + SH3 on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRL VQWAAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSNLPGRSVRFSSAJDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISTRVTADISLAKRSVLNPSSAJDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISTRVTADISLAKRSVLNPSKAIDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPYDVVFSMRPVVLVRSSKQAEEEFIE ELARTLQLVVLDADTINHPAQLSKTSLAPINYKKISARVQRGRSQAEEFPCLEPVKKSQH NVLSGTGRJSSELDQUFSDSKSSQGQQQRTDRSAPRSAQAEEEPCLEPVKKSQH NVQMVAAADKLAQCPPQESFDVILDENVLENSKLQHEQKEGCOIGFIPTPVKLENMRLQHEQRAK COMPORDUFORMED M | | WKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEE |
| HEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHK SKDRYCDKEGEVISKRRSEAGEWNRDVYIRQRat 5' onMQCCGLVHRRRVRSYGSADSYTSRFSDSDSVLEEDREAVRREAERQAQAQLEK NVE βNVE βAKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWVIGRV VKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTINTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ (CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPNVQPSNSTPQY NVIEGGERPSVYLRat 5' + SH3 on NVE βMQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAQEDDVPVGMAISFEAKDFLHVKEKFNNDWVIGRL VKEGCEIGFIPSPSKLLSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTINTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLETQLDDACEHLGEFLESYWRATHPPNQPGSRPNVPSNSTPQY NVIEGGERPSYYLNVE 5' + SH3 on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGFYSSKSGGNSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKERMPFFKKTEHTPPDVDVPSMRPVVLQPSLAGVEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAHIERSNTRSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYKKISSFKVLQRLIKSRGKSQAKHL NVQMAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGQQRTDRSAPKSAQAEEPCLEPVKKSQH HNREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYD | | EPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYS |
| SKDR YCDKEGE VISKRRSEAGEWNRDVYIRQRat 5' onMQCCGL VHRRRVRVSYGSADSYTSRPSDSDVSLEEDREA VRREAERQAQAQLEKNVE βAKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVLRat 5' + SH3MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEKon NVE βAKTKPVAFAVRTNVRYSAAQEDDVPVGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQEDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNL/VLDCETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDL/LEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDENRDSDPAYSH3 on Rat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRAKQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKMPFFKKTEHTPPYDVVPSMRPVLUGPSLKGYEVTDMMQKALFDFLKHRFFERFISISTRVTADISLAKRSVLNPSKHAIERSNTRSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIUVVKISSPKVLQRLIKSRGKSQAKHLNVQWAAADKLAQCPPQESFDVILDENQLEDACEHLADVLEAYWKATHPSSNLPNPLLSTILTS | | HEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDODHNECSKORSRHK |
| Rat 5' onMQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEKNVE βAKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVYLRat 5' + SH3on NVE βMQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEKAKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVE 5' +SH3 on Rat βRASDTSSIEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPYPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRAKQGKFYSSKSGGNSSSLSGDIVPSSRKSTPPSSAIDIDATGLAAEENDIPANHRSFKPSANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNPSKHAIIERSNTRSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIUVYVKISSPKVLQRLIKSRGSQAKHLNVUEGGERPSVRIPNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRat βMEPEPGLSEDRETSRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPVNVE 5' on | | SKDRYCDKEGEVISKRRSEAGEWNRDVYIRO |
| NVE βAKTKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRV VKEGCDIGFIPTPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLRat 5' + SH3 on NVE βMQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK AKTKPVAFAVRTNVRYSAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTINMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' + SH3 on Rat βRASDTSSIEDDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSLGDIVPSSRKSTPPSSADIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAILRESNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQERSPSAVGERSNGGNSSAGAGNASKSCARSVEFVAFAVETNLRYDGSEDDDPAY RAt βNVE 5' on Rat βMEPEPGLSEQUELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVETNLRYDGSEDDDSPYH RASDTSSIEDDRETSRRELERRAWDALQAARSKPVAFAVETNLRYDGSEDDDSPYH RASDTSSIEDDRETSRRELERRAWDALQAARSKPVAFAVETNLRYDGSEDDDSPYH RASDTSSIEDDRETSRRELERRAWDALQAARSKPVAFAVETNLRYDGSEDDDSPYH RASDTSSIEDRETSRRELERRAWDALQAARSKPVAFAVETNLRYDGSEDD | Rat 5' on | MOCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAEROAOAOLEK |
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| KHSSISVDAEMOVELDDDQQSFISFINKLEPKSAUTVSSQUTATOLQAEKKUALFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDEMKHRFSGRVLIARVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQCSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQYNVIEGGERPSVYLRat 5' + SH3MQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEKon NVE βAKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPSRHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKGLFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIARVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLDCETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQVVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYSH3 on Rat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRAKQGKFYSSKSGGNSSSLGDIVPSSRKSTPPSADIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKRMPFFKKTEHTPPYDVVSMRPV1LVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSNLPNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSNLPNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVKEGCDIGFIPTYKLENMRLQHEQRAKCWEVPREPOLSEQDIELDSLEQVTASSFHSDIQRHYNDGREASRFIG | | |
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| RVTSDISLAKRTNMSNPGRQTIMERTIKNKNTGLAEVQQEIERIFELARGCNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLRat 5' + SH3MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' + SH3 on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGONSSSLGDIVPSSRKSTPPSSADIDIATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIUVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRESRNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEEV USKRRSEAGEWNRDVYIRQNVE 5' on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPH GAAVSFEAKDPINPVIRQNVE 5' on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPH GAAVSFEAKDGCUM000000000000000000000000000000000000 | | LFKKQEQLPPYDVVPSMKPIVLVGPSLKGYEVIDMMQKALLDFMKHKFSGKVLIA |
| CE I VNHPI QLAKI SLAPMIV YIKIAAPK VLQRLIK IRGKSQSKNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLRat 5' + SH3MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTINTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVULVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIUYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEFKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRKSKDPVCKEGV ISKRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDPLIVSKEFNDDWWIGRVVKEGCUGGFIPTPVKLENMRLQHEQRAK GAAVSFEAKDRLWKEKFNDDWWIGRVVKEGCUGGFIPTPVKLENMRLQHEQRAK GAAVSFEAKDPLIVSKEFNDDWWIGRVVKEGCUGGFIPTPVKLENMRLQHEQRAK GAAVSFEAKDGUM06004000000000000000000000000000000000 | | RV ISDISLAKRINMSNPGKQIIMERIKNKNIGLAEVQQEIERIFELARGLNLVVLD |
| CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLRat 5' + SH3MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK on NVE βAKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKGCDUGGTIFIPVKLENMRLQHEQRAK QAKSFEAKDFLHVKEKFNDDWWIGRVVKGCDUGFIPTVKLENMRLQHEQRAK QAKSFEAKDFLHVKEKFNDDWWIGRVVKGCDUGFDIPVKLENMRLQHEQRAK QAKSFEAKDFLHVKEKFNDDWWIGRVVKGCDUGFDIPVKLENMRLQHEQRAK QAKSFEAKDFLHVKEKFNDDWWIGRVVKGCDUGFDIPVKLENMRLQHEQRAK QAVSFEAKDFLHVKEKFNDDWWIGRVVKGCDUGFDDRYCKLEQKGCUGFIFIPVKLENMRLQHEQRAK QAVSFEAKDFLHVKEKFNDDWWIGRVVKGCDUMFNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDGLUGAUGOUNGEQUMF | | CETVNHPIQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ |
| NVIEGGERPSVYLRat 5' + SH3MQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWVIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSADIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKGCDUGGTIPTYKLENMRLQHEQRAK COMENGENGENGDIGHIPTYKLENMRLQHEQRAK COMENGENGENGUNDVYIRQ | | CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY |
| Rat 5' + SH3MQCCGLVHRRVRVSYGSADSYTSRPSDSDVSLEEDREAVREAERQAQAQLEK AKTKPVAFAVRTNVRYSAAQEDDVPVGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPAH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKGCCDIGFIPTPVKLENMRLQHEQRAK OKVSFGAKDFLHVKEKFNDDWWIGRVVKGCCDIGFIPTPVKLENMRLQHEQRAK OKVSFGAKDGLMBRAPLAPHNDBREDAUDAPSDDAUTSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPAH GAAVSFEAKDFLHVKEKFNDDWWIGRVVDRDEDAUEDDAUFDAUFDAUFDAUFDAU MPDAUSSPACHUPSDPAUHDSOPAUFDAUFDAUFDAUFDAUFDAUFDAUFDAUFDAUFDAUFD | | NVIEGGERPSVYL |
| on NVE βAKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRA KOSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYCPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQ | Rat 5' + SH3 | MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK |
| VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK COMEWG000000000000000000000000000000000000 | on NVE β | AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL |
| RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKKGCDIGFIPTPVKLENMRLQHEQRAK GAAVSFEAKDFLHVKEKFNDDWWIGRVVFKEGCDIGFIPTPVKLENMRLQHEQRAK HANSFEAGEWNRDVYIRQ | | VKEGCEIGFIPSPSKLKSLQQIGGTASGRGMRNSKRDVFQFDMVNQAQSPTNTSPS |
| LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' + SH3 on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK CAAVSFEAKDFLHVKKKFNDDWWIGRVVKEGCDIGFIPTVKLENMRLQHEQRAK NVEC 1 DW MEDAVCKEGCDIGFIPTVKLENMRLQHEQRAK | | RHSSTSVDAENGVEYDDDQQSPTSPTNKTLPRSASGTTVSSQPGTATGTQGKPKKG |
| RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' on RasMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK COVERVERCEDVERDENDELDDUGDVCCTPUSSALDDISLEDVERCEDVERCEDVERCEDVERCEDDSPVH CAAVSFEAKDFLHVKEKFNDDWWIGRDVESALDDFNCALDARSPOSALDDSPVH CAAVSFEAKDFLHVKEKFNDDWWIGRDVESALDDFNCALDARSPOSALDDFNRDSDPAY | | LFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALLDFMKHRFSGRVLIA |
| CETVNHPTQLAKTSLAPMIVYIKIAAPKVLQRLIKTRGKSQSRNLSIQLVAAEKLAQ CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYSH3 on Rat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWVIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK GOVERDWUCCDWEDSUCTDDDA UTDD DVTCT DE DEDUCT | | RVTSDISLAKRTNMSNPGKQTIMERTKNKNTGLAEVQQEIERIFELARGLNLVVLD |
| CSEDMYDLVLEETQLDDACEHLGEFLESYWRATHPPNQPGSRPPNVQPSNSTPQY NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY Rat βRaf βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK GOVEGOVGGONGGONGONGONGONGROUNDC + DDA TOU D + TENDY + WUP COVEC + | | CETVNHPTQLAKTSLAPMIVYIKIAAPKVLORLIKTRGKSOSRNLSIOLVAAEKLAO |
| NVIEGGERPSVYLNVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYSH3 on Rat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRAKQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCMEMORYNUT SONRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCMEMORYOCMEMORYRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCMEMORYOND ACTIONATIONANDENDERSTNVE 5' ONRASDTSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCMEMORYOND ACTIONANDENDERSTOND ACTIONANDENDERSTOND ACTIONANDENDERST | | CSEDMYDLVLEETOLDDACEHLGEFLESYWRATHPPNOPGSRPPNVOPSNSTPOY |
| NVE 5' +MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYSH3 on Rat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRAKQGKFYSSKSGGNSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKODWWORADDLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK | | NVIEGGERPSVYL |
| SH3 on Rat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNVRYSAAQEDDVPV PGMAISFEAKDFLHVKEKFNNDWWIGRLVKEGCEIGFIPSPVKLENMRLQHEQRA KQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKP SANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQK ALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIF ELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHL NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQNVE 5' on Rat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK OCMVPGSGLODMWGGDWGRDWGRDWDGA UND A TOUND AND TOWN AND THE A | NVF 5' + | MEPEPGI SEODIEI DSI EOVSTASSEHSDIORHYNDGREASREIGADDENRDSDPAY |
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| IOMALST LAKDTLINKD WHOKL VKLOCLIOTITST VKLERMIKLQILLQKAKQGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKPSANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onRat βMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOKEVGGRGGGGGAGGAGLGDWBGSDWGTDRSGADDD A TEUP A VEDEPCI | SIIS on Rat p | DCMAISEEAKDELHVKEKENNDWWIGDI VKEGCEIGEIDSDVKI ENMPLOHEODA |
| RQUKI 133K300N3333L0DI V133KK51H133AIDIDAT0LDALELNDIFARMIKSFKSANSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOKEVSSAGGOGOGOGOGOGOGOGOGOGA DDD ATTOL DATTOL DATT | | KOCKEVSSKSCCNSSSSI CDIVDSSDKSTDDSSAIDIDATCI DAEENDIDANUDSDKD |
| SANSVISPHSKEKKMPPFKKTEHTPFIDVVPSMRPVVLVOPSLKOTEVIDMMQKALFDFLKHRFEGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCKEVAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG | | CANSUTSDUSKERDMDEERKTEHTDDVDV/DSMDDV/UVCDSLKCVEVTDMMOV |
| ALFDFLKHKFEGKISTIKVTADISLAKKSVLNNPSKHAIIEKSNTKSSLAEVQSEIEKIFELARTLQLVVLDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCKEVAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG | | ALEDELKIDEECDIGTEDVTADIGLAKDGVI NNDGKIJAHEDGNTDGGLAEVOGEIEDIE |
| ELARTLQLVVLDADTINHPAQLSKTSLAPITVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOKEVSSAGCONSSSIECDRESS | | ALFDFLKHKFEGKISTIKVI ADISLAKKSVLNNPSKHAIIEKSNI KSSLAEVQSEIEKIF |
| NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGEWNRDVYIRQNVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCKEVESKOCONSSERCE CDWDSSDKCTDDSCA DDD A TICL DA EED DD A TICL DA EED DD A TICL DA EED DD A TICL DA DED DD A TICL DA DA DD A TICL DA DED DD A TICL DA DA D | | ELARILQLVVLDADIINHPAQLSKISLAPIIVYVKISSPKVLQKLIKSKGKSQAKHL |
| NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQ NVE 5' on MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY Rat β RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK OCKEVASKAGCMSSSGLCDWBSSDKGTDDSCALDDALTGLALST | | NVQMVAADKLAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLP |
| RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQ NVE 5' on MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY Rat β RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK OCKEVESKEGCONSSESSESSESSESSESSESSESSESSESSESSESSESSE | | NPLLSRTLATSTLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQH |
| HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV ISKRRSEAGEWNRDVYIRQ NVE 5' on MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY Rat β RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK OCKEVASSASL CDWDSSDL CDWDSSDL ATCL DA EEDIDD A TCL DA A TCL D | | RSSSATHQNHRSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHRE |
| ISKRRSEAGEWNRDVYIRQ NVE 5' on Rat β MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK OCKEVERSECONSESSECO | | HNHREESHSSNGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEV |
| NVE 5' onMEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAYRat βRASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVHGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAKOCKEVSSKACCNSSSSLCDWDSSDKCTDDSSCAUDD A TECHDA DEDIDIDA NUDSDKCCU | | ISKRRSEAGEWNRDVYIRQ |
| Rat β RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK OCKEVERRAGONESSELCENWESSENCETERSELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH | NVE 5' on | MEPEPGLSEQUIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY |
| GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLQHEQRAK | Rat β | RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPVH |
| | ' | GAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPVKLENMRLOHEORAK |
| UUGKFYSSKSUGNSSSSLUDIVPSSKKSTPPSSAIDIDATULDAEENDIPANHRSPKPSA | | OGKFYSSKSGGNSSSSLGDIVPSSRKSTPPSSAIDIDATGLDAEENDIPANHRSPKPSA |

| | NSVTSPHSKEKRMPFFKKTEHTPPYDVVPSMRPVVLVGPSLKGYEVTDMMQKALF |
|----------------------------------|--|
| | DFLKHRF |
| | EGRISITRVTADISLAKRSVLNNPSKHAIIERSNTRSSLAEVQSEIERIFELARTLQLVV |
| | LDADTINHPAQLSKTSLAPIIVYVKISSPKVLQRLIKSRGKSQAKHLNVQMVAADK |
| | LAQCPPQESFDVILDENQLEDACEHLADYLEAYWKATHPPSSNLPNPLLSRTLATS |
| | TLPLSPTLASNSQGSQGDQRTDRSAPRSASQAEEEPCLEPVKKSQHRSSSATHQNH |
| | RSGTGRGLSRQETFDSETQESRDSAYVEPKEDYSHEHVDRYVPHREHNHREESHSS |
| | NGHRHREPRHRTRDMGRDQDHNECSKQRSRHKSKDRYCDKEGEVISKRRSEAGE |
| | WNRDVYIRQ |
| EdCa _V β 2 with | MEPEPGLSEQDIELDSLEQVSTASSFHSDIQRHYNDGREASRFIGADDFNRDSDPAY |
| NVE β | RASDTSSIEEDRETSRRELERRAWDALQAARSKPVAFAVRTNLRYDGSEDDDSPV |
| NTerm | HGAAVSFEAKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPSKLKSLQQVGPATG |
| | GRPVRGSSKTVFHFNDMVNQAQSPTNTSPSRHSSASVVDAENGMEYNEEEQHSPT |
| | SPTSKTSTLPRSASGNTVTSQSAPGQQGKSKKAFFKKQEQLPPYDVVPSMRPIVLV |
| | GPSLKGYEVTDMMQKALFDYMKHQFSGRVLISRVTSDISLAKRSNLANPSKRNIIE |
| | RSNSKNSGLAEVQQEIERIFELSRGLNLVVLDCDTVNHPTQLAKTSLAPLVVYVKIS |
| | APKVLQRLIKTRGKTQSRALNVQLVAAEKLAQCSEDLYDLILDETQLQDACHHLG |
| | EFLESYWRATHPPNQPGSRPPNMQQSTPQYNVIEAGERPSVYL |
| EdCa _v β 2 with | MWFGTKKSKDSERRKRQPIDVYREQALSVNPAYIWGDDLDSRKTSGTSSEYGEDD |
| CcCa _v β | IEQIRVQALEQLAAARVKPVAFAMRANYGYNGAEDDDSPIHGMALSFEPKDFLHI |
| NTerm | KEKFNNDWLIGRVVREGCDIGFIPSPSKLKSLQQVGPATGGRPVRGSSKTVFHFND |
| | MVNQAQSPTNTSPSRHSSASVVDAENGMEYNEEEQHSPTSPTSKTSTLPRSASGNT |
| | VTSQSAPGQQGKSKKAFFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQK |
| | ALFDYMKHQFSGRVLISRVTSDISLAKRSNLANPSKRNIIERSNSKNSGLAEVQQEI |
| | ERIFELSRGLNLVVLDCDTVNHPTQLAKTSLAPLVVYVKISAPKVLQRLIKTRGKT |
| | QSRALNVQLVAAEKLAQCSEDLYDLILDETQLQDACHHLGEFLESYWRATHPPNQ |
| | PGSRPPNMQQSTPQYNVIEAGERPSVYL |
| EdCa _v β 2 with | MVTASYNVPLDNTSATHSFNYPHAFLLTHSSCSYHSNEGFINSSTEVDIVDENDFKP |
| PpCa _v β | LFEGNSNEPHCQKKVISFSSLLDNVVAPIWYFFEMGDEFDSRKTSGTSSEYGEEDV |
| NTerm | EALRVQALEQLAAAASKPVAFAVRANYGYNGSEDEDCPVNGMAVSFEAKDCLHI |
| | KVKFNNDWWIGRVVKEGHDIGFIPSPSKLKSLQQVGPATGGRPVRGSSKTVFHFN |
| | DMVNQAQSPTNTSPSRHSSASVVDAENGMEYNEEEQHSPTSPTSKTSTLPRSASGN |
| | TVTSQSAPGQQGKSKKAFFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQ |
| | KALFDYMKHQFSGRVLISRVTSDISLAKRSNLANPSKRNIIERSNSKNSGLAEVQQE |
| | IERIFELSRGLNLVVLDCDTVNHPTQLAKTSLAPLVVYVKISAPKVLQRLIKTRGKT |
| | QSRALNVQLVAAEKLAQCSEDLYDLILDETQLQDACHHLGEFLESYWRATHPPNQ |
| | PGSRPPNMQQSTPQYNVIEAGERPSVYL |
| EdCa _V β 2 with | MQCCGLVHRRRVRVSYGSADSYTSRPSDSDVSLEEDREAVRREAERQAQAQLEK |
| Rat β NTerm | AKTKPVAFAVRTNVRYSAAQEDDVPVPGMAISFEAKDFLHVKEKFNNDWWIGRL |
| | VKEGCEIGFIPSPSKLKSLQQVGPATGGRPVRGSSKTVFHFNDMVNQAQSPTNTSP |
| | SRHSSASVVDAENGMEYNEEEQHSPTSPTSKTSTLPRSASGNTVTSQSAPGQQGKS |
| | KKAFFKKQEQLPPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALFDYMKHQFSGR |
| | VLISRVTSDISLAKRSNLANPSKRNIIERSNSKNSGLAEVQQEIERIFELSRGLNLVVL |
| | DCDTVNHPTQLAKTSLAPLVVYVKISAPKVLQRLIKTRGKTQSRALNVQLVAAEK |
| | LAQCSEDLYDLILDETQLQDACHHLGEFLESYWRATHPPNQPGSRPPNMQQSTPQ |
| | YNVIEAGERPSVYL |
| EdCa _v β 2 with | MVQKSGMSRGPYPPSQEIPMEVFDPSPQGKYSKRKGRFKRSDGSTSSDTTSNSFVR |
| CxCa _v β | QGSAESYTSRPSDSDVSLEEDREALRKEAERQALAQLEKAKTKPVAFAVRTNVGY |
| NTerm | NPSPGDEVPVQGVAITFEPKDFLHIKEKYNNDWWIGRLVKEGCEVGFIPSPSKLKS |
| | LQQVGPATGGRPVRGSSKTVFHFNDMVNQAQSPTNTSPSRHSSASVVDAENGME |
| | YNEEEQHSPTSPTSKTSTLPRSASGNTVTSQSAPGQQGKSKKAFFKKQEQLPPYDV |
| | VPSMRPIVLVGPSLKGYEVTDMMQKALFDYMKHQFSGRVLISRVTSDISLAKRSN |
| | LANPSKRNIIERSNSKNSGLAEVQQEIERIFELSRGLNLVVLDCDTVNHPTQLAKTS |

| | LAPLVVYVKISAPKVLQRLIKTRGKTQSRALNVQLVAAEKLAQCSEDLYDLILDET |
|----------------------------------|---|
| | QLQDACHHLGEFLESYWRATHPPNQPGSRPPNMQQSTPQYNVIEAGERPSVYL |
| EdCa _v β 2 with | MMHGSQTEPAISSMTSERNHKNLSHGSRTSINSQRSTNKKVNSHVSFDESTAAPSS |
| ChCa _v β | KKPGALSAAGGKKSVDDNFSSSVLQTVFALRWQKKAAQKKKKPDDFQQMYMHS |
| NTerm | MSGALGSIIGDEFDGRKTSGTSSEYGDGEDLEALRILALEKLQAARTRPVAFAVRA |
| | NYGYNGSEDDDSPVHGMAVSFEKDDCLHIKDKFNKDWWIGRVVKEGHNIGFVPS |
| | PSKLKSLQQVGPATGGRPVRGSSKTVFHFNDMVNQAQSPTNTSPSRHSSASVVDA |
| | ENGMEYNEEEQHSPTSPTSKTSTLPRSASGNTVTSQSAPGQQGKSKKAFFKKQEQL |
| | PPYDVVPSMRPIVLVGPSLKGYEVTDMMQKALFDYMKHQFSGRVLISRVTSDISL |
| | AKRSNLANPSKRNIIERSNSKNSGLAEVQQEIERIFELSRGLNLVVLDCDTVNHPTQ |
| | LAKTSLAPLVVYVKISAPKVLQRLIKTRGKTQSRALNVQLVAAEKLAQCSEDLYD |
| | LILDETQLQDACHHLGEFLESYWRATHPPNQPGSRPPNMQQSTPQYNVIEAGERPS |
| | VYL |
| EdCa _v β 2 with | MAQDFALSNRDIELDSLEHVSTGSSTPSEIQRWHMYSDRSGRVVCKDSEPAYRAS |
| EdCa _v β1 | DTSSVDEDKETSRRELERRAWEALQAARSKPVAFAVRTNIAYEGSEDDDSPVHGA |
| NTerm | AVSFNVKDFLHVKEKFNDDWWIGRVVKEGCDIGFIPTPSKLKSLQQVGPATGGRP |
| | VRGSSKTVFHFNDMVNQAQSPTNTSPSRHSSASVVDAENGMEYNEEEQHSPTSPT |
| | SKTSTLPRSASGNTVTSQSAPGQQGKSKKAFFKKQEQLPPYDVVPSMRPIVLVGPS |
| | LKGYEVTDMMQKALFDYMKHQFSGRVLISRVTSDISLAKRSNLANPSKRNIIERSN |
| | SKNSGLAEVQQEIERIFELSRGLNLVVLDCDTVNHPTQLAKTSLAPLVVYVKISAP |
| | KVLQRLIKTRGKTQSRALNVQLVAAEKLAQCSEDLYDLILDETQLQDACHHLGEF |
| | LESYWRATHPPNQPGSRPPNMQQSTPQYNVIEAGERPSVYL |
| | |