

Alignment of the CATPI, CAKTI, and CASIL fragments of the *Cicer arietinum* Kunitz-type trypsin inhibitor-like proteins that were cloned and sequenced, using the a NCBI sequence as the reference (shown as the last sequence in each alignment).

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                10      20      30      40      50
BC_CATPI      GTGTTGGATACAAATGGTAACCCCTTATCCCTGGTGATGAATACTACAT
L171_CATPI    .....
L172_CATPI    .....
L179_CATPI    .....
L315_CATPI    .....
L316_CATPI    .....
L317_CATPI    .....
L301_CATPI    .....
L302_CATPI    .....
L79_CATPI     .....
L303_CATPI    .....
L304_CATPI    .....
BL_CATPI      .....
NM_001279070.1 .....

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                60      70      80      90     100
BC_CATPI      TTTTCCAGCAAGTGATAACCCCTAAACCTGGAGGACTAACCCCTAAACAAA
L171_CATPI    .....
L172_CATPI    .....
L179_CATPI    .....
L315_CATPI    .....
L316_CATPI    .....T.....
L317_CATPI    .....
L301_CATPI    .....
L302_CATPI    .....
L79_CATPI     .....
L303_CATPI    .....
L304_CATPI    .....
BL_CATPI      .....
NM_001279070.1 .....

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                110     120     130     140     150
BC_CATPI      TTAGTGATGCAGAGTGTCCTGTAACCTGCCTACAAAATAATGCGACAAGA
L171_CATPI    .....
L172_CATPI    .....
L179_CATPI    .....
L315_CATPI    .....
L316_CATPI    .....
L317_CATPI    .....
L301_CATPI    .....
L302_CATPI    .....
L79_CATPI     .....
L303_CATPI    .....
L304_CATPI    .....
BL_CATPI      .....
NM_001279070.1 .....

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                160     170     180     190     200
BC_CATPI      GGTTTACCAGTTAAATTACCTTATCAGGAAGTAATAACACTGGTAATAA
L171_CATPI    .....

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L172_CATPI
L179_CATPI
L315_CATPI
L316_CATPI
L317_CATPI
L301_CATPI
L302_CATPI
L79_CATPI
L303_CATPI
L304_CATPI
BL_CATPI
NM_001279070.1

210 220 230 240 250

BC_CATPI TATCTTGACTAATACTGATCTTGAAATTGAGTTCAC TAAGAAGCCAAATT
L171_CATPI
L172_CATPI
L179_CATPI
L315_CATPI
L316_CATPI
L317_CATPI
L301_CATPI
L302_CATPI
L79_CATPI
L303_CATPI
L304_CATPI
BL_CATPI
NM_001279070.1

260 270 280 290 300

BC_CATPI GCGTTGGAATCATCAAAATGGATTGTGTTTGTTGATGATTTTACTCCTCAA
L171_CATPI
L172_CATPI
L179_CATPI
L315_CATPI
L316_CATPI
L317_CATPI
L301_CATPI
L302_CATPI
L79_CATPI
L303_CATPI
L304_CATPI
BL_CATPI
NM_001279070.1

310 320 330 340 350

BC_CATPI GGTTGTGTTGGTATTGGTGGTCCTGAAATCATCTTGGTTTAGAAATACT
L171_CATPI
L172_CATPI
L179_CATPI
L315_CATPI
L316_CATPI
L317_CATPI
L301_CATPI
L302_CATPI
L79_CATPI
L303_CATPI
L304_CATPI
BL_CATPI
NM_001279070.1

	360	370	380	390	400
BC_CATPI	CAATGGCAAATTTTTAATTGTGAGACATGCTTCTGGATATGTTTATAGGT				
L171_CATPI					
L172_CATPI					
L179_CATPI					
L315_CATPI					
L316_CATPI					
L317_CATPI					
L301_CATPI					
L302_CATPI					
L79_CATPI					
L303_CATPI					
L304_CATPI					
BL_CATPI					
NM_001279070.1					

	410	420	430	440	450
BC_CATPI	TTGGATTTTGTGTTGGATGTGAGTGGTGATTGTGGTTTGTCTGGATTGAAT				
L171_CATPI					
L172_CATPI					
L179_CATPI					
L315_CATPI					
L316_CATPI					
L317_CATPI					
L301_CATPI					
L302_CATPI					
L79_CATPI					
L303_CATPI					
L304_CATPI					
BL_CATPI					
NM_001279070.1					

	460	470	480	490	500
BC_CATPI	ACTTTTGAATCGAGAGAAGGTGGATCACGTTTAATTTAACTATATTAA				
L171_CATPI					
L172_CATPI					
L179_CATPI					
L315_CATPI					
L316_CATPI					
L317_CATPI					
L301_CATPI					
L302_CATPI					
L79_CATPI					
L303_CATPI					
L304_CATPI					
BL_CATPI					
NM_001279070.1					

	510	520	530	540	550
BC_CATPI	TTCTTTAATGTTGTATTTGTTGATGTTGCTTCTGTTAAATCTGGACGTA				
L171_CATPI					
L172_CATPI					
L179_CATPI					
L315_CATPI					
L316_CATPI					
L317_CATPI					
L301_CATPI					
L302_CATPI					

L79_CATPI
 L303_CATPI
 L304_CATPI
 BL_CATPI
 NM_001279070.1

560 570 580 590

BC_CATPI TTATGCCCTCTTAAAGGTGGATTTGATGCGTCAGTTTAGCTCGAGAAG
 L171_CATPI
 L172_CATPI
 L179_CATPI
 L315_CATPI
 L316_CATPI
 L317_CATPI
 L301_CATPI
 L302_CATPI
 L79_CATPI
 L303_CATPI
 L304_CATPI
 BL_CATPI
 NM_001279070.1

10 20 30 40 50

BC_CAKTI CTCAAACGAAGATGTTGAACAAGTACTAGACATAAATGGTAATCCTATTT
 L79_CAKTI
 L301_CAKTI
 L302_CAKTI
 L303_CAKTI
 L304_CAKTI
 L315_CAKTI
 L316_CAKTI
 L317_CAKTI
 L171_CAKTI
 L172_CAKTI
 L179_CAKTI
 BL_CAKTI
 NM_001279121.1

60 70 80 90 100

BC_CAKTI TTCCAGGTGGCAAATACATATTTTGTCCCGCAATTCGTGGACCTCCAGGT
 L79_CAKTI
 L301_CAKTI
 L302_CAKTI
 L303_CAKTI
 L304_CAKTI
 L315_CAKTI
 L316_CAKTI
 L317_CAKTI
 L171_CAKTI
 L172_CAKTI
 L179_CAKTI
 BL_CAKTI
 NM_001279121.1

110 120 130 140 150

BC_CAKTI GGAGGAGTCAGATTAGACAAAACCTGGTGATTTCAGAGTGTCCAGTTACCGT
 L79_CAKTI
 L301_CAKTI
 L302_CAKTI

L303_CAKTI
L304_CAKTI
L315_CAKTI
L316_CAKTI
L317_CAKTI
L171_CAKTI
L172_CAKTI
L179_CAKTI
BL_CAKTI
NM_001279121.1

160 170 180 190 200

BC_CAKTI CTTACAAGACTACAAAGAAGTTATCAATGGTTTACCAGTAAAATTGTGA
L79_CAKTI
L301_CAKTI
L302_CAKTI
L303_CAKTI
L304_CAKTI
L315_CAKTI
L316_CAKTI
L317_CAKTI
L171_CAKTI
L172_CAKTI
L179_CAKTI
BL_CAKTI
NM_001279121.1

210 220 230 240 250

BC_CAKTI TACCAGGAATAAGTCCTGGTATAATATTTACTGGTACACCAATTGAAATC
L79_CAKTI
L301_CAKTI
L302_CAKTI
L303_CAKTI
L304_CAKTI
L315_CAKTI
L316_CAKTI
L317_CAKTI
L171_CAKTI
L172_CAKTI
L179_CAKTI
BL_CAKTI
NM_001279121.1

260 270 280 290 300

BC_CAKTI GAGTTCACTAAAAAGCCTAATTGTGCTGAATCATCAAATGGTTGATATT
L79_CAKTI
L301_CAKTI
L302_CAKTI
L303_CAKTI
L304_CAKTI
L315_CAKTI
L316_CAKTI
L317_CAKTI
L171_CAKTI
L172_CAKTI
L179_CAKTI
BL_CAKTI
NM_001279121.1

310 320 330 340 350

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.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CAKTI      TGTCTGACGATACATCGACAAAGCTTGATTGGTATTGGTGGTCCTGAAA
L79_CAKTI     .....
L301_CAKTI    .....
L302_CAKTI    .....
L303_CAKTI    .....
L304_CAKTI    .....
L315_CAKTI    .....
L316_CAKTI    .....
L317_CAKTI    .....
L171_CAKTI    .....
L172_CAKTI    .....
L179_CAKTI    .....
BL_CAKTI      .....
NM_001279121.1 .....
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                360      370      380      390      400
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CAKTI      ATTATTCGGGTAAACAAACATTGAGTGGCACATTTAATATTCAAAAATAT
L79_CAKTI     .....
L301_CAKTI    .....A.....
L302_CAKTI    .....
L303_CAKTI    .....
L304_CAKTI    .....
L315_CAKTI    .....
L316_CAKTI    .....
L317_CAKTI    .....
L171_CAKTI    .....
L172_CAKTI    .....
L179_CAKTI    .....
BL_CAKTI      .....
NM_001279121.1 .....
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                410      420      430      440      450
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CAKTI      GGATCTGGATTTTGGTTATAAGCTTGGATTTTGTGTTAAGGGTTCCACCAAT
L79_CAKTI     .....
L301_CAKTI    .....
L302_CAKTI    .....
L303_CAKTI    .....
L304_CAKTI    .....
L315_CAKTI    .....
L316_CAKTI    .....
L317_CAKTI    .....
L171_CAKTI    .....
L172_CAKTI    .....
L179_CAKTI    .....
BL_CAKTI      .....
NM_001279121.1 .....
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                460      470      480      490      500
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CAKTI      TTGTTTGGATATTGGAAGATATGATAATGATGAAGGTGGAAGACGTTTGA
L79_CAKTI     .....
L301_CAKTI    .....
L302_CAKTI    .....
L303_CAKTI    .....
L304_CAKTI    .....
L315_CAKTI    .....
L316_CAKTI    .....
L317_CAKTI    .....
L171_CAKTI    .....
L172_CAKTI    .....A.....
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L179_CAKTI
BL_CAKTI
NM_001279121.1

510 520 530 540 550

BC_CAKTI ATTTGAAGTGAACATGAAGCTTTTAGAGTTGTTTTGTTGATGCTTCTTCT
L79_CAKTI
L301_CAKTI
L302_CAKTI
L303_CAKTI
L304_CAKTI
L315_CAKTI
L316_CAKTI
L317_CAKTI
L171_CAKTI
L172_CAKTI
L179_CAKTI
BL_CAKTI
NM_001279121.1

560 570 580 590 600

BC_CAKTI TATGAAGATGGAATTGTTAAATCTGTTGTTTAAATTTTGACTTTTGGTAA
L79_CAKTI
L301_CAKTI
L302_CAKTI
L303_CAKTI
L304_CAKTI
L315_CAKTI
L316_CAKTI
L317_CAKTI
L171_CAKTI
L172_CAKTI
L179_CAKTI
BL_CAKTI
NM_001279121.1

610 620 630 640 650

BC_CAKTI CTAGCTAGCTCGTGTAACCTTAGTTCTTGTGTTTGGTGAATTTTGTGCTTTT
L79_CAKTI
L301_CAKTI
L302_CAKTI
L303_CAKTI
L304_CAKTI
L315_CAKTI
L316_CAKTI
L317_CAKTI
L171_CAKTI
L172_CAKTI ..A.....
L179_CAKTI
BL_CAKTI
NM_001279121.1

660 670 680 690 700

BC_CAKTI GCATAATGTATGCACCTTAATAGATGGAATAATACATTGTTGTGTGCTCCT
L79_CAKTI A.....
L301_CAKTI A.....
L302_CAKTI A.....
L303_CAKTI A.....
L304_CAKTI A.....

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L315_CAKTI      .....A.....
L316_CAKTI      .....A.....
L317_CAKTI      .....A.....
L171_CAKTI      .....A.....
L172_CAKTI      .....
L179_CAKTI      .....A.....
BL_CAKTI        .....A.....
NM_001279121.1  .....A.....

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      ....|
BC_CAKTI      TCC--
L79_CAKTI     ...T-
L301_CAKTI    ...--
L302_CAKTI    ...--
L303_CAKTI    ...--
L304_CAKTI    ...--
L315_CAKTI    ...--
L316_CAKTI    ...--
L317_CAKTI    ..AAG
L171_CAKTI    ...--
L172_CAKTI    ...T-
L179_CAKTI    ...T-
BL_CAKTI      ...--
NM_001279121.1  ...--

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              10      20      30      40      50
BC_CASIL      TGCACACCTCAGTAGGACACCATTTGAATATTATAGATACCTACAGTTTGA
L79_CASIL      -.....
L301_CASIL     .....
L302_CASIL     .....
L303_CASIL     .....
L304_CASIL     -.....
L315_CASIL     -.....
L316_CASIL     .....
L317_CASIL     .....
L171_CASIL     .....
L172_CASIL     .....
L179_CASIL     .....
BL_CASIL       .....
XM_004511089.3 .....

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              60      70      80      90     100
BC_CASIL      GTTTGTACAATCCATAAAGAAGTTACCATATGATCCAAATGTTCCATCATC
L79_CASIL     .....
L301_CASIL     .....
L302_CASIL     .....
L303_CASIL     .....
L304_CASIL     .....
L315_CASIL     .....
L316_CASIL     .....
L317_CASIL     .....
L171_CASIL     .....
L172_CASIL     .....
L179_CASIL     .....
BL_CASIL       .....
XM_004511089.3 .....

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              110      120      130      140      150

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.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CASIL      TCTTCCAGTGATAATCAACCTCCTTCCACTCCTTGCAATCCCTCTCACCCA
L79_CASIL     .....
L301_CASIL    .....
L302_CASIL    .....
L303_CASIL    .....
L304_CASIL    .....
L315_CASIL    .....
L316_CASIL    .....
L317_CASIL    .....
L171_CASIL    .....
L172_CASIL    .....
L179_CASIL    .....
BL_CASIL      .....
XM_004511089.3 .....
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                160      170      180      190      200
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CASIL      ACCTCCATTTCAGTCGATGCCGCGCATATTGTTGAAGCTTCAAATGTTATT
L79_CASIL     .....
L301_CASIL    .....
L302_CASIL    .....
L303_CASIL    .....
L304_CASIL    .....
L315_CASIL    .....
L316_CASIL    .....
L317_CASIL    .....
L171_CASIL    .....
L172_CASIL    .....
L179_CASIL    .....
BL_CASIL      .....
XM_004511089.3 .....
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                210      220      230      240      250
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CASIL      CTCAGTCCCTATTAAAGTCTCAGTTCATCATCATGATGAGCAGAAAA
L79_CASIL     .....
L301_CASIL    .....
L302_CASIL    .....
L303_CASIL    .....
L304_CASIL    .....
L315_CASIL    .....
L316_CASIL    .....
L317_CASIL    .....
L171_CASIL    .....
L172_CASIL    .....
L179_CASIL    .....
BL_CASIL      .....
XM_004511089.3 .....
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                260      270      280      290      300
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
BC_CASIL      AGGAGTGAAATTTCAAGCCACACCTTGTGGCAATTCAGTGTCTCAAAAC
L79_CASIL     .....
L301_CASIL    .....
L302_CASIL    .....
L303_CASIL    .....
L304_CASIL    .....
L315_CASIL    .....
L316_CASIL    .....
L317_CASIL    .....
L171_CASIL    .....
L172_CASIL    .....
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L179_CASIL
BL_CASIL
XM_004511089.3

310 320 330 340 350

BC_CASIL CAACATTCAGAGGACATGATCCATTTTGTTTACCAAAGTTGAACCCCCT
L79_CASIL
L301_CASIL
L302_CASIL
L303_CASIL
L304_CASIL
L315_CASIL
L316_CASIL
L317_CASIL
L171_CASIL
L172_CASIL
L179_CASIL
BL_CASIL
XM_004511089.3

360 370 380 390 400

BC_CASIL CCATTGCCGTGTAGTAGGCGCTGATGAAATATTCAATTGTCAATCTCAAC
L79_CASIL
L301_CASIL
L302_CASIL
L303_CASIL
L304_CASIL
L315_CASIL
L316_CASIL
L317_CASIL
L171_CASIL
L172_CASIL
L179_CASIL
BL_CASIL
XM_004511089.3

410 420 430 440 450

BC_CASIL AGGTTCCGCATGAGTGTCCATCACAACTGAGCTATTGATGTTGTAGCCA
L79_CASIL
L301_CASIL
L302_CASIL
L303_CASIL
L304_CASIL
L315_CASIL
L316_CASIL
L317_CASIL
L171_CASIL
L172_CASIL
L179_CASIL
BL_CASIL
XM_004511089.3

460 470

BC_CASIL TCAAAAGCCACAGTTGAGCAAGGA-
L79_CASIL A
L301_CASIL-
L302_CASIL-
L303_CASIL-
L304_CASIL A

L315_CASIL	A
L316_CASIL	-
L317_CASIL	-
L171_CASIL	-
L172_CASIL	-
L179_CASIL	-
BL_CASIL	A
XM_004511089.3	-