R&D SYSTEMS
a bio-techne brand

*h*NuMA VersaClone cDNA

Catalog Number: RDC2361

Specifications:

Gene:	*h*NUMA1
Accession:	NP_006176
Insert size:	6361bp
Concentration:	10µg at 0.2µg/µL

Description

This shuttle vector contains the complete ORF for the gene of interest, along with a Kozak consensus sequence for optimal translation initiation. It is inserted NotI to AscI. The gene insert is flanked with convenient multiple cloning sites which can be used to easily cut and transfer the gene cassette into your desired expression vector.

Preparation and Storage

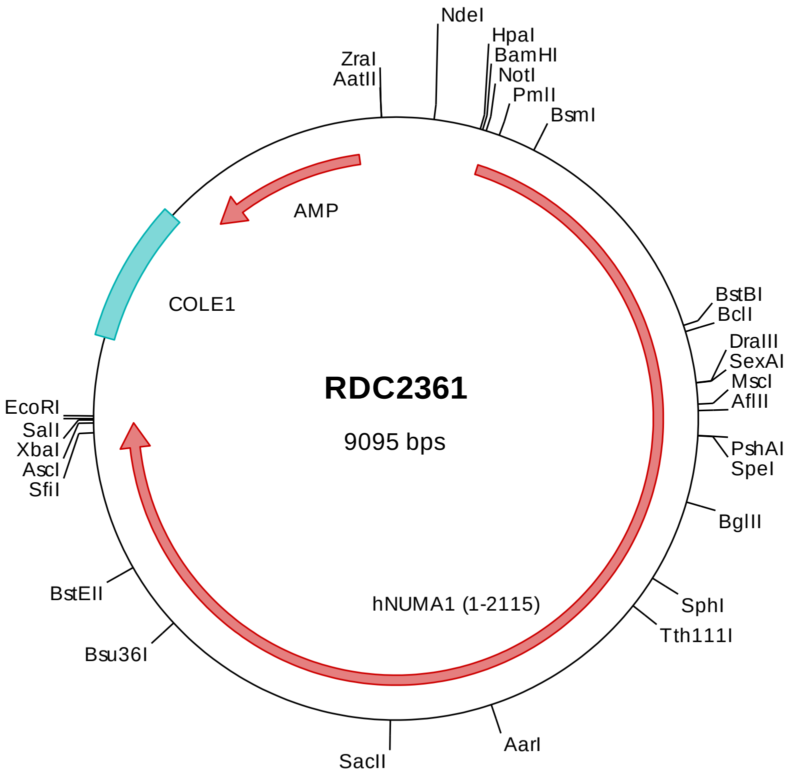
Formulation	cDNA is provided in 10 mM Tris-Cl, pH 8.5
Shipping	Ships at ambient temperature
Stability	1 year from date of receipt when stored at -20°C to -80°C
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

*h*NuMA cDNA Plasmid

NUMA1 nuclear mitotic apparatus protein 1 [*Homo sapiens* (human)]

Also known as: NUMA; NMP-22

Summary:
NUMA is a large protein that forms a structural component of the nuclear matrix. It interacts with microtubules and plays a role in the formation and organization of the mitotic spindle during cell division. Alternatively spliced transcripts encoding different proteins have been described.



FOR RESEARCH USE ONLY

NOT FOR USE IN HUMANS

> RDC2361 Plasmid DNA Sequence

```
   1 tcgcgcgttt cggtgatgac ggtgaaaacc tctgacacat gcagctcccg gagacggtca cagcttgtct gtaagcggat gccgggagca gacaagcccg
 101 tcagggcgcg tcagcgggtg ttggcgggtg tcggggctgg cttaactatg cggcatcaga gcagattgta ctgagagtgc accatatgcg gtgtgaaata
 201 ccgcacagat gcgtaaggag aaaataccgc atcaggcgcc attcgccatt caggctgcgc aactgttggg aagggcgatc ggtgcgggcc tcttcgctat
 301 tacgccagct ggcgaaaggg ggatgtgctg caaggcgatt aagttgggta acgccagggt tttcccagtc acgacgttgt aaaacgacgg ccagtgaatt
 401 ggagacgtgt taacaagctt ggatccgata tcgctagcgc ggccgccacc atgacactcc acgccacccg tggggctgca ctcctctctt gggtgaacag
 501 tctacacgtg gctgaccctg tggaggctgt gctgcagctc caggactgca gcatcttcat caagatcatt gacagaatcc atggcactga agagggacag
 601 caaatcttga agcagccggt gtcagagaga ctggactttg tgtgcagttt tctgcagaaa aatcgaaaac atccctcttc cccagaatgc ctggtatctg
 701 cacagaaggt gctagaggga tcagagctgg aactggcgaa gatgaccatg ctgctcttat accactctac catgagctcc aaaagtccca gggactggga
 801 acagtttgaa tataaaattc aggctgagtt ggctgtcatt cttaaatttg tgctggacca tgaggacggg ctaaacctta atgaggacct agagaacttc
 901 ctacagaaag ctcctgtgcc ttctacctgt tctagcacat tccctgaaga gctctcccca cctagccacc aggccaagag ggagattcgc ttcctagagc
1001 tacagaaggt tgcctcctct tccagtggga acaactttct ctcaggttct ccagcttctc ccatgggtga tatcctgcag accccacagt tccagatgag
1101 acggctgaag aagcagcttg ctgatgagag aagtaatagg gatgagctgg agctggagct agctgagaac cgcaagctcc tcaccgagaa ggatgcacag
1201 atagccatga tgcagcagcg cattgaccgc ctagccctgc tgaatgagaa gcaggcggcc agcccactgg agcccaagga gcttgaggag ctgcgtgaca
1301 agaatgagag ccttaccatg cggctgcatg aaaccctgaa gcagtgccag gacctgaaga cagagaagag ccagatggat cgcaaaatca accagctttc
1401 ggaggagaat ggagaccttt cctttaagct gcgggagttt gccagtcatc tgcagcagct acaggatgcc ctcaatgagc tgacggagga gcacagcaag
1501 gccactcagg agtggctaga gaagcaggcc cagctggaga aggagctcag cgcagccctg caggacaaga aatgccttga agagaagaac gaaatccttc
1601 agggaaaact ttcacagctg gaagaacact tgtcccagct gcaggataac ccaccccagg agaagggcga ggtgctgggt gatgtcttgc agctggaaac
1701 cttgaagcaa gaggcagcca ctcttgctgc aaacaacaca cagctccaag ccagggtaga gatgctggag actgagcgag gccagcagga agccaagctg
1801 cttgctgagc ggggccactt cgaagaagaa aagcagcagc tgtctagcct gatcactgac ctgcagagct ccatctccaa cctcagccag gccaaggaag
1901 agctggagca ggcctcccag gctcatgggg cccggttgac tgcccaggtg gcctctctga cctctgagct caccacactc aatgccacca tccagcaaca
2001 ggatcaagaa ctggctggcc tgaagcagca ggccaaagag aagcaggccc agctagcaca gaccctccaa cagcaagaac aggcctccca gggcctccgc
2101 caccaggtgg agcagctaag cagtagcctg aagcagaagg agcagcagtt gaaggaggta gcggagaagc aggaggcaac taggcaggac catgcccagc
2201 aactggccac tgctgcagag gagcgagagg cctccttaag ggagcgggat gcggctctca agcagctgga ggcactggag aaggagaagg ctgccaagct
2301 ggagattctg cagcagcaac ttcaggtggc taatgaagcc cgggacagtg cccagactag tgtcacccag gctcaacgcg aaaaagcaga gttgtcaaga
2401 aaggtcgagg aattgcaggc gtgcgtcgag accgctcgcc aagagcagca cgaagctcaa gcgcaggtcg cggagcttga attgcagttg cgctccgagc
2501 aacaaaaagc tacggaaaag gaacgagtgg cgcaggaaaa agatcaactc caggaacagc tgcaggcgct gaaggaatct ttgaaggtga cgaaaggtag
2601 cctcgaagag gaaaagcgac gggcggcgga cgcattggag gagcaacaaa gatgcatcag tgagctcaaa gcggagacaa gatctctcgt agagcagcac
2701 aaacgcgaaa ggaaggagtt ggaagaggag cgggcaggtc ggaaaggcct cgaagcaagg cttcaacaac tgggagaagc gcatcaggca gaaaccgagg
2801 tgctcaggcg cgaacttgcg gaggccatgg cggctcagca cacggcagag agtgagtgtg aacagctggt taaagaagtc gccgcctggc gggagaggta
2901 cgaagatagc cagcaagagg aagcgcaata cggtgcaatg tttcaggagc aattgatgac tctcaaagag gaatgtgaaa aggcacggca ggaattgcag
3001 gaagctaaag aaaaggtggc gggtatcgaa tctcattccg aattgcagat cagccgacaa caaaatgagt tggctgaact gcatgcgaac ctggcaaggg
3101 ctctccaaca ggttcaagag aaagaagtgc gagcgcaaaa gctggcggat gacctcagca cgctccagga gaagatggca gccaccagta aagaagtagc
3201 tcgactcgaa acgttggtta ggaaagccgg ggagcaacaa gagacggcgt cccgagaatt ggtcaaggag cctgcgcggg cgggagatcg ccagcccgaa
3301 tggttggaag aacaacaagg gcgccagttc tgcagtactc aggctgctct gcaagcgatg gagagagaag ccgaacaaat ggggaacgaa ctcgagagac
3401 ttagagctgc cctgatggag tcccaaggcc aacaacagga ggaacggggt caacaggaac gggaagtcgc gcgcctgacc caagagcggg ggcgagccca
3501 agcggacctg gccctggaga aagctgctcg agcggagctg gagatgagac tgcaaaacgc attgaacgaa caaagggtag agttcgccac actccaagaa
3601 gcattggcac acgcgttgac ggaaaaggag ggaaaagacc aagaattggc gaagcttcgc gggctcgaag cagctcaaat caaggaactc gaagaactgc
3701 gccaaacggt taaacagctg aaggaacagc ttgccaaaaa ggaaaaagag cacgcgtctg gcagcggagc gcaaagcgaa gctgcaggcc gcacagaacc
3801 gactggaccg aagctcgagg cactccgcgc ggaagtctca aaactcgaac agcagtgcca gaagcagcag gaacaagcag actcattgga acgctctctc
3901 gaagctgaac gggcttcacg cgccgaacgg gacagcgcac tcgagaccct gcaggggcag cttgaagaga aggcccaaga attgggtcat agccagagcg
4001 cccttgcaag tgcgcaacgg gagctggccg cgtttcgcac gaaggtccaa gatcacagca aggctgagga tgaatggaaa gcgcaggtgg ctagggggcg
4101 acaggaggca gagagaaaga acagtcttat ttccagcctc gaagaagagg tgagtatact gaatcgccaa gttctcgaga aggaaggcga aagtaaagaa
4201 ttgaaacgac ttgtcatggc cgaatccgag aaatcacaga agcttgagga acgactccgg cttctgcaag cagaaacggc aagcaatagt gcccgcgcag
4301 ctgaaagatc atctgcgttg cgggaggagg tccagagtct tcgggaggag gctgaaaagc agcgagtcgc gtccgaaaac ttgagacagg aactcactag
4401 ccaggccgaa cgcgctgagg aacttgggca agagctcaag gcctggcaag agaagttctt ccagaaagag caggctttgt ctacgctcca gcttgaacat
4501 acttcaacac aagcactggt atcagagctg cttccagcga aacacctctg ccaacagctg caggcagaac aagccgcggc cgaaaagcgc catcgtgaag
4601 agctggaaca aagcaaacaa gctgctggtg gtctgcgcgc cgaattactg cgtgcgcaac gtgagttggg ggaacttatt ccgttgcgcc agaaggttgc
4701 tgagcaagaa cgcactgctc agcagcttcg tgcagagaaa gcatcctacg cagaacagtt gtcaatgttg aaaaaggcgc atgggctgct tgccgaagag
4801 aatcgcggat taggcgagcg cgcaaatctt ggacgccaat tcttggaagt ggaattggac caagcccgtg agaaatacgt ccaagagctt gctgcagtgc
4901 gtgcagatgc ggaaactcgt ttagcggagg tgcaacgtga ggcacaatca accgcccgtg agctggaagt catgaccgcc aaatatgagg gcgctaaagt
5001 taaggtatta gaagagcgtc agcgcttcca agaggaacgc caaaagctga ccgcacaggt agaacaatta gaagtttttc agcgcgagca gacgaaacaa
5101 gttgaagagc tgtcgaaaaa gttggcagac tcagatcaag cttctaaagt gcaacagcag aaacttaaag ccgtgcaagc acaagggggt gaatcacagc
5201 aggaggcaca gcgccttcag gctcagctta acgaattaca agcgcagctt tctcagaaag aacaagcagc ggaacattac aagttgcaaa tggaaaaagc
5301 taaaacccat tatgatgcga aaaaacaaca gaatcaggag cttcaggagc aattgcgctc actggaacag ttacaaaaag aaaacaaaga gttgcgtgct
5401 gaagcagaac gtttgggaca tgagttgcag caggcggggt taaagactaa agaggccgaa caaacttgtc gtcacctgac agctcaagtt cgcagtctgg
5501 aagcccaggt ggcacatgct gaccaacaat tacgtgatct ggggaaattc caggtcgcga ctgatgcatt gaaaagccgt gagcctcaag cgaagccaca
5601 gttagacttg tcgattgaca gtttggacct gtcatgtgag gaaggcacgc cgctgtcaat cactagcaag ttgccccgta ctcagcctga cggtacgtcg
5701 gtgccagggg agcctgcatc cccaatttca caacgcttac ctcctaaggt agagagcttg gaatcattat attttacgcc aattccggcc cgttctcagg
5801 cacctttgga atcttctttg gattccttgg gagacgtgtt cctggatagt ggtcgcaaaa cacgctctgc gcgccgtcgc acaacacaga tcattaatat
5901 tactatgaca aaaaaacttg atgtggaaga gcccgattcc gcaaattcta gtttctactc gacccgttct gccccagcga gtcaagcaag tttgcgcgct
6001 acatcctcga cgcagagctt ggctcgtctt gggagcccgg actatggtaa ctctgctctt ttgagcctgc cgggttaccg ccctacaact cgttcgtccg
6101 cacgtcgttc gcaggcaggg gtatcatcag gggctcctcc aggtcgcaac tcattctaca tgggtacatg tcaggacgaa cccgaacaac tggatgactg
6201 gaaccgtatc gccgagctgc aacaacgcaa tcgcgtgtgc ccgccccatc ttaaaacatg ttacccgctg gagagccgcc cgtccttgtc attaggaacg
6301 attaccgatg aagagatgaa gaccggcgat cctcaagaga cattacgccg cgcgtccatg cagccaattc aaatcgcgga aggcacaggt atcaccacgc
6401 gtcagcaacg caagcgcgtc agcttagagc cgcaccaggg cccagggaca cctgaatcaa aaaaagccac ctcttgtttc cctcgtccga tgacgccgcg
6501 cgaccgtcac gagggtcgca aacagagcac aaccgaggcc cagaagaaag cggctcctgc aagcacaaag caagcagatc gccgccagtc gatggctttc
6601 tcgattctta acaccccgaa aaaactgggc aattccttgt tacgtcgtgg tgcttctaag aaagctctga gcaaggcgtc gccaaataca cgtagcggca
6701 cccgccgttc cccgcgcatc gcgactacca ctgcgtctgc tgcaacagca gcggccattg ggccaccccc ccgtgccaaa ggaaaggcga aacattaaag
6801 gcgcgccagt atactctaga gtcgacaccc ggggaattcc tcgagcgctc gtctctagct tggcgtaatc atggtcatag ctgtttcctg tgtgaaattg
6901 ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgta aagcctgggg tgcctaatga gtgagctaac tcacattaat tgcgttgcgc
7001 tcactgcccg ctttccagtc gggaaacctg tcgtgccagc tgcattaatg aatcggccaa cgcgcgggga gaggcggttt gcgtattggg cgctcttccg
7101 cttcctcgct cactgactcg ctgcgctcgg tcgttcggct gcggcgagcg gtatcagctc actcaaaggc ggtaatacgg ttatccacag aatcagggga
7201 taacgcagga aagaacatgt gagcaaaagg ccagcaaaag gccaggaacc gtaaaaaggc cgcgttgctg gcgtttttcc ataggctccg cccccctgac
7301 gagcatcaca aaaatcgacg ctcaagtcag aggtggcgaa acccgacagg actataaaga taccaggcgt ttccccctgg aagctccctc gtgcgctctc
7401 ctgttccgac cctgccgctt accggatacc tgtccgcctt tctcccttcg ggaagcgtgg cgctttctca atgctcacgc tgtaggtatc tcagttcggt
7501 gtaggtcgtt cgctccaagc tgggctgtgt gcacgaaccc cccgttcagc ccgaccgctg cgccttatcc ggtaactatc gtcttgagtc caacccggta
7601 agacacgact tatcgccact ggcagcagcc actggtaaca ggattagcag agcgaggtat gtaggcggtg ctacagagtt cttgaagtgg tggcctaact
7701 acggctacac tagaaggaca gtatttggta tctgcgctct gctgaagcca gttaccttcg gaaaaagagt tggtagctct tgatccggca aacaaaccac
7801 cgctggtagc ggtggttttt ttgtttgcaa gcagcagatt acgcgcagaa aaaaaggatc tcaagaagat cctttgatct tttctacggg gtctgacgct
```

```
7901  cagtggaacg aaaactcacg ttaagggatt ttggtcatga gattatcaaa aaggatcttc acctagatcc ttttaaatta aaaatgaagt tttaaatcaa
8001  tctaaagtat atatgagtaa acttggtctg acagttacca atgcttaatc agtgaggcac ctatctcagc gatctgtcta tttcgttcat ccatagttgc
8101  ctgactcccc gtcgtgtaga taactacgat acgggagggc ttaccatctg gccccagtgc tgcaatgata ccgcgagacc cacgctcacc ggctccagat
8201  ttatcagcaa taaaccagcc agccggaagg gccgagcgca gaagtggtcc tgcaacttta tccgcctcca tccagtctat taattgttgc cgggaagcta
8301  gagtaagtag ttcgccagtt aatagtttgc gcaacgttgt tgccattgct acaggcatcg tggtgtcacg ctcgtcgttt ggtatggctt cattcagctc
8401  cggttcccaa cgatcaaggc gagttacatg atcccccatg ttgtgcaaaa aagcggttag ctccttcggt cctccgatcg ttgtcagaag taagttggcc
8501  gcagtgttat cactcatggt tatggcagca ctgcataatt ctcttactgt catgccatcc gtaagatgct tttctgtgac tggtgagtac tcaaccaagt
8601  cattctgaga atagtgtatg cggcgaccga gttgctcttg cccggcgtca atacgggata ataccgcgcc acatagcaga actttaaaag tgctcatcat
8701  tggaaaacgt tcttcggggc gaaaactctc aaggatctta ccgctgttga gatccagttc gatgtaaccc actcgtgcac ccaactgatc ttcagcatct
8801  tttactttca ccagcgtttc tgggtgagca aaaacaggaa ggcaaaatgc cgcaaaaaag ggaataaggg cgacacggaa atgttgaata ctcatactct
8901  tcctttttca atattattga agcatttatc agggttattg tctcatgagc ggatacatat ttgaatgtat ttagaaaaat aaacaaatag gggttccgcg
9001  cacatttccc cgaaaagtgc cacctgacgt ctaagaaacc attattatca tgacattaac ctataaaaat aggcgtatca cgaggccctt tcgtc
```

> RDC2361 Translated Insert Sequence

```
   1  mtlhatrgaa llswvnslhv adpveavlql qdcsifikii drihgteegq qilkqpvser ldfvcsflqk nrkhpsspec lvsaqkvleg selelakmtm
 101  lllyhstmss ksprdweqfe ykiqaelavi lkfvldhedg lnlnedlenf lqkapvpstc sstfpeelsp pshqakreir flelqkvass ssgnnflsgs
 201  paspmgdilq tpqfqmrrlk kqladersnr delelelaen rklltekdaq iammqqridr lallnekqaa splepkelee lrdknesltm rlhetlkqcq
 301  dlkteksqmd rkinqlseen gdlsfklref ashlqqlqda lnelteehsk atqewlekqa qlekelsaal qdkkcleekn eilqgklsql eehlsqlqdn
 401  ppqekgevlg dvlqletlkq eaatlaannt qlqarvemle tergqqeakl laerghfeee kqqlsslitd lqssisnlsq akeeleqasq ahgarltaqv
 501  asltseltl natiqqqdqe laglkqqake kqaqlaqtlq qqeqasqglr hqveqlsssl kqkeqqlkev aekqeatrqd haqqlataae ereaslrerd
 601  aalkqleale kekaakleil qqqlqvanea rdsaqtsvtq aqrekaelsr kveelqacve tarqeqheaq aqvaelelql rseqqkatek ervaqekdql
 701  qeqlqalkes lkvtkgslee ekrraadale eqqrciselk aetrslveqh krerkeleee ragrkglear lqqlgeahqa etevlrrela eamaaqhtae
 801  seceqlvkev aawreryeds qqeeaqygam fqeqlmtlke ecekarqelq eakekvagie shselqisrq qnelaelhan laralqqvqe kevraqklad
 901  dlstlqekma atskevarle tlvrkageqq etasrelvke paragdrqpe wleeqqgrqf cstqaalqam ereaeqmgne lerlraalme sqgqqqeerg
1001  qqerevarlt qergraqadl alekaarael emrlqnalne qrvefatlqe alahalteke gkdqelaklr gleaaqikel eelrqtvkql keqlakkeke
1101  hasgsgaqse aagrteptgp klealraevs kleqqcqkqq eqadslersl eaerasraer dsaletlqgq leekaqelgh sqsalasaqr elaafrtkvq
1201  dhskaedewk aqvargrqea erknslissl eeevsilnrq vlekegeske lkrlvmaese ksqkleerlr llqaetasns araaerssal reevqslree
1301  aekqrvasen lrqeltsqae raeelgqelk awqekffqke qalstlqleh tstqalvsel lpakhlcqql qaeqaaaekr hreeleqskq aagglraell
1401  raqrelgeli plrqkvaeqe rtaqqlraek asyaeqlsml kkahgllaee nrglgeranl grqfleveld qarekyvqel aavradaetr laevqreaqs
1501  tarelevmta kyegakvkvl eerqrfqeer qkltaqveql evfqreqtkq veelskklad sdqaskvqqq klkavqaqgg esqqeaqrlq aqlnelqaql
1601  sqkeqaaehy klqmekakth ydakkqqnqe lqeqlrsleq lqkenkelra eaerlghelq qaglktkeae qtcrhltaqv rsleaqvaha dqqlrdlgkf
1701  qvatdalksr epqakpqldl sidsldlsce egtplsitsk lprtqpdgts vpgepaspis qrlppkvesl eslyftpipa rsqaplessl dslgdvflds
1801  grktrsarrr ttqiinitmt kkldveepds anssfystrs apasqaslra tsstqslarl gspdygnsal lslpgyrptt rssarrsqag vssgappgrn
1901  sfymgtcqde peqlddwnri aelqqrnrvc pphlktcypl esrpslslgt itdeemktgd pqetlrrasm qpiqiaegtg ittrqqrkrv slephqgpgt
2001  peskkatscf prpmtprdrh egrkqsttea qkkaapastk qadrrqsmaf silntpkklg nsllrrgask kalskaspnt rsgtrrspri atttasaata
2101  aaigatprak gkakh
```