

Product datasheet for **MC221732**

Npas4 (NM_153553) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Npas4 (NM_153553) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Npas4
Synonyms:	LE-PAS; Nxf
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >MC221732 representing NM_153553
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTACCGATCCACCAAGGGCGCCTCCAAGGGCGCCGACCAGATCAACGCCGAGATTCGGAACCTCA
 AGGAGCTGCTGCCGTTGGCTGAAGCGGACAAGGTCGGCTGTCCTACCTGCACATCATGAGTCTTGCCCTG
 CATCTACACTCGCAAGGGTGTCTCTTTGCTGGAGGCACTCCTTTGGCTGGCCCCACCGGCTTCTCTCT
 GCTCAAGAGCTTGAAGACATTGTGGCAGCACTACCTGGATTTCTCCTTGTATTACAGCTGAGGGGAAGT
 TGCTATACCTGTCGGAGAGTGTGAGCGAGCATCTGGCCACTCTATGGTGGACCTGGTTGCCAGGGCGA
 CAGTATCTACGATATCATTGACCCTGCTGACCATCTCACTGTGCGCCAGCAGCTCACCATGCCCTCTGCT
 CTGGATGCTGATCGCCTTTCCGTTGTCGATTCAACACCTCCAAGTCCCTCCGGCCAGAGTTCAGGAA
 ACAAACTGGTGTATTTCGAGGTCGATTCCATGCTCACCCACTGGGGCCTACTGGGCAGGAAACCTGT
 GTTCACCGCTTTCTGCGCCCACTGGAGCCAAGACCCCGCCCTGGCCCCGGCCCTGGCCCTGGCCCTGGT
 CCTGCTTCTCTCTTCTGCCATGTTCCAGAGCCGGCATGCTAAGGACCTAGCCCTACTGGACGTTTCTG
 AAAGTGTCTAATCTACCTGGGCTTTGAGCGCAGCGAACTGCTCTGTAATCATGGTATGGACTGCTACA
 CCCCAGGACCTGGCCCAAGCTTCTTCTCAACACTACCGCCTGTTGGCTGAAAGTGGAGATATTCAGGCT
 GAAATGGTGGTGAGACTTCAAGCCAAGCATGGAGGCTGGACATGGATTTACTGCATGCTATACTCAGAAG
 GTCCAGAAGGCCCTATTACTGCCAATAACTACCCTATCAGTGACACGGAAGCCTGGAGCCTCCGCCAGCA
 GCTAAACTCTGAAGACACCCAGGAGCCTATGTCCTAGGAACCCAGCTGTGCTACCCTCATTCTCTGAG
 AATGTCTTCTCCAGGAGCAATGCTCTAATCCACTCTTACACCATCCCTGGGGACTCCTAGAAGTGCCA
 GCTTCCCAGGGCTCCTGAACTAGGTGTGATCTCAACACCAGAAGAGCTTCCCAACCTCCAAGAGAGT
 GGACTTCAGTTACCTGCCATTCCCTGCTAGGCCTGAGCCTTCCCTCCAAGCAGACCTGAGCAAGGATTTG
 GTGTGTACTCCACCTTACACACCCACCAGCCAGGAGGCTGTGCCTTCTCTTACGCTCCTGAACCTT
 TCCAGACTCACTTGGCCCTCCGTCCAGCTCTCTCCAAGAACAGCTGACACCAAGTACAGTGACTTTCTC
 TGAACAGTTGACACCCAGCAGTGTACCTTCCAGACCCACTAACCAGTTCACACAAAGGACAGTTGACA
 GAAAGCTCAGCCAGAAGCTTTGAAGACCAGTTGACTCCATGCACCTTCTCCTTCCCTGACCAGCTACTTC
 CCAGCACTGCCACATTCCAGAGCCTCTGGGCAGCCCCGCCATGAGCAGCTGACTCCTCCAGCACAGC
 ATTCAGGCTCATCTGAACAGCCCCAGCCAAACCTTCCAGAGCAACTGAGCCCCAATCCTACCAAGACT
 TACTTCGCCCAGGAGGGATGCAGTTTTCTCTATGAGAAGTTGCCCAAGTCTAGCAGCCCTGGTAATG
 GGGACTGTACACTCCTGGCCCTAGCTCAGCTCCGGGGCCCCCTCTCTGTGGATGTCCCCCTGGTGCCCGA
 AGGCTGCTCACACCTGAGGCCTCTCCAGTCAAGCAAAGTTTCTTCCACTACACAGAGAAAGAGCAAAAT
 GAGATAGATCGTCTCATTAGCAGATCAGCCAGTTGGCTCAGGGCGTGGACAGGCCCTTCTCAGCTGAGG
 CTGGCACTGGGGGGCTGGAGCCACTTGGAGGGCTGGAGCCCTGAACCTAACCTGTCCCTGTGAGGGC
 TGGACCCCTGTGCTTAGCCTGGATCTTAAACCTGGAATGCCAGGAGCTGGACTTCTGGTTGACCTT
 GATAATTTATTCCTGGAAGAGACGCCAGTGAAGACATCTTATGGATCTTTCTACTCCAGACCCCAATG
 GGAATGGGGTTCAGGGGATCCTGAGGCAGAGGTCAGGAGGGACCCTGTCACCTTGAACAACCTGTC
 CCCAGAAGATCACAGCTTCTGGAGGACTTGGCCACCTATGAAACCGCCTTTGAGACAGGTGTCTCAACA
 TTCCCCTACGAAGGGTTTGCTGATGAGTTGCATCAACTCCAGAGCCAAGTTCAAGACAGCTTCCATGAAG
 ATGGAAGTGGAGGGGAACCAACGTTTTGA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: Sgfl-MluI
ACCN: NM_153553
Insert Size: 2409 bp

OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none"> 1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	<u>NM_153553.4, NP_705781.1</u>
RefSeq Size:	3292 bp
RefSeq ORF:	2409 bp
Locus ID:	225872
UniProt ID:	<u>Q8BGD7</u>
Cytogenetics:	19 A

Gene Summary:

Transcription factor expressed in neurons of the brain that regulates the excitatory-inhibitory balance within neural circuits and is required for contextual memory in the hippocampus (PubMed:18815592, PubMed:22194569, PubMed:23029555, PubMed:24201284, PubMed:24855953). Plays a key role in the structural and functional plasticity of neurons (PubMed:23172225). Acts as an early-response transcription factor in both excitatory and inhibitory neurons, where it induces distinct but overlapping sets of late-response genes in these two types of neurons, allowing the synapses that form on inhibitory and excitatory neurons to be modified by neuronal activity in a manner specific to their function within a circuit, thereby facilitating appropriate circuit responses to sensory experience (PubMed:24201284, PubMed:24855953). In excitatory neurons, activates transcription of BDNF, which in turn controls the number of GABA-releasing synapses that form on excitatory neurons, thereby promoting an increased number of inhibitory synapses on excitatory neurons (PubMed:18815592, PubMed:22194569, PubMed:24201284). In inhibitory neurons, regulates a distinct set of target genes that serve to increase excitatory input onto somatostatin neurons, probably resulting in enhanced feedback inhibition within cortical circuits (PubMed:24855953). The excitatory and inhibitory balance in neurons affects a number of processes, such as short-term and long-term memory, acquisition of experience, fear memory, response to stress and social behavior (PubMed:18815592, PubMed:22194569, PubMed:23029555, PubMed:24201284, PubMed:27238022). Acts as a regulator of dendritic spine development in olfactory bulb granule cells in a sensory-experience-dependent manner by regulating expression of MDM2 (PubMed:25088421). Efficient DNA binding requires dimerization with another bHLH protein, such as ARNT, ARNT2 or BMAL1 (PubMed:14701734, PubMed:15363889, PubMed:19284974). Can activate the CME (CNS midline enhancer) element (PubMed:14701734, PubMed:15363889).[UniProtKB/Swiss-Prot Function]