

Supplementary Material

bHLH Transcription Factor NtMYC2a Regulates the Carbohydrate Metabolism During Pollen Development in Tobacco (*Nicotiana tabacum* L. cv. TN90)

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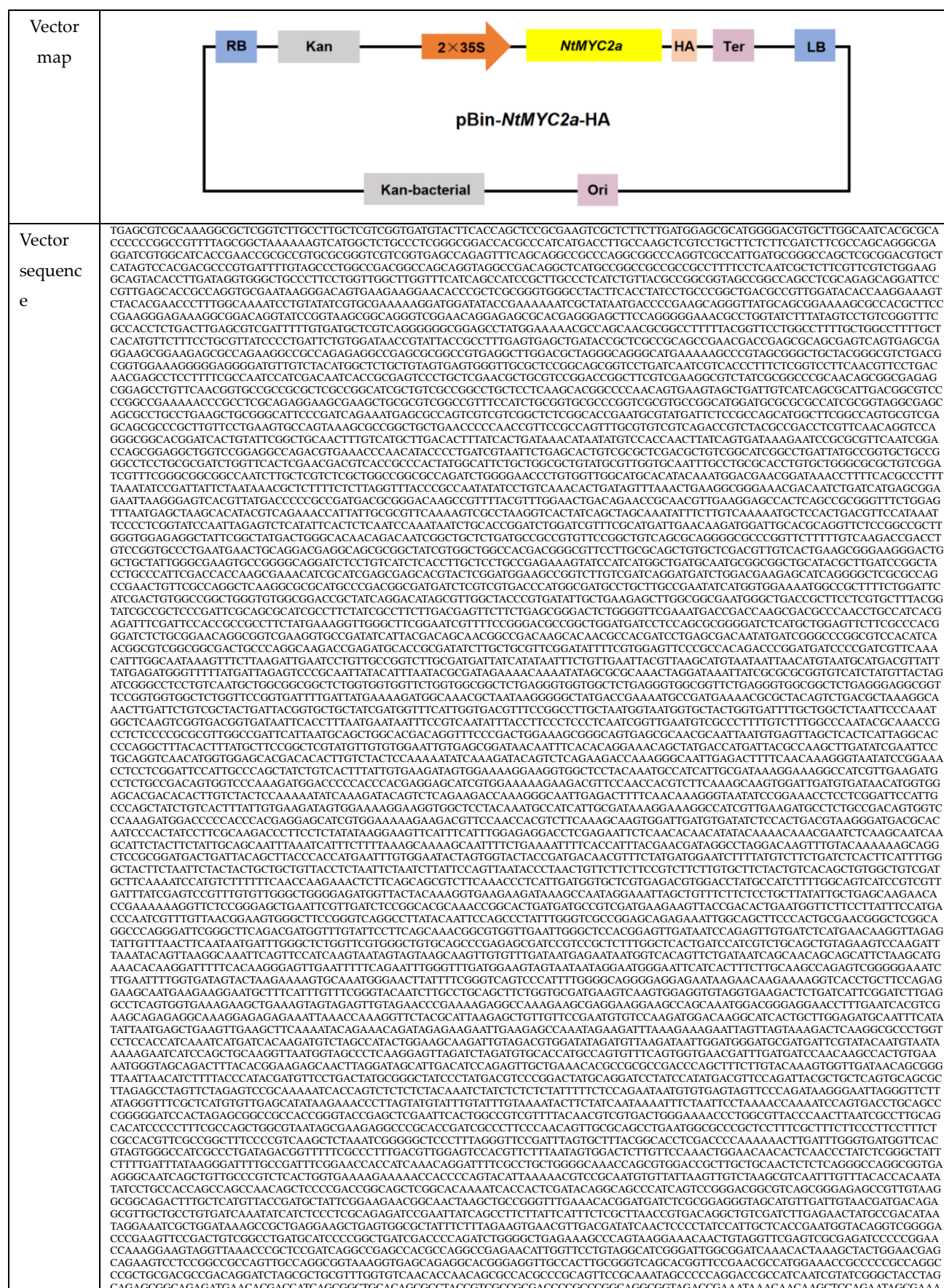
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Supplementary Table S1: List of primers used in this study

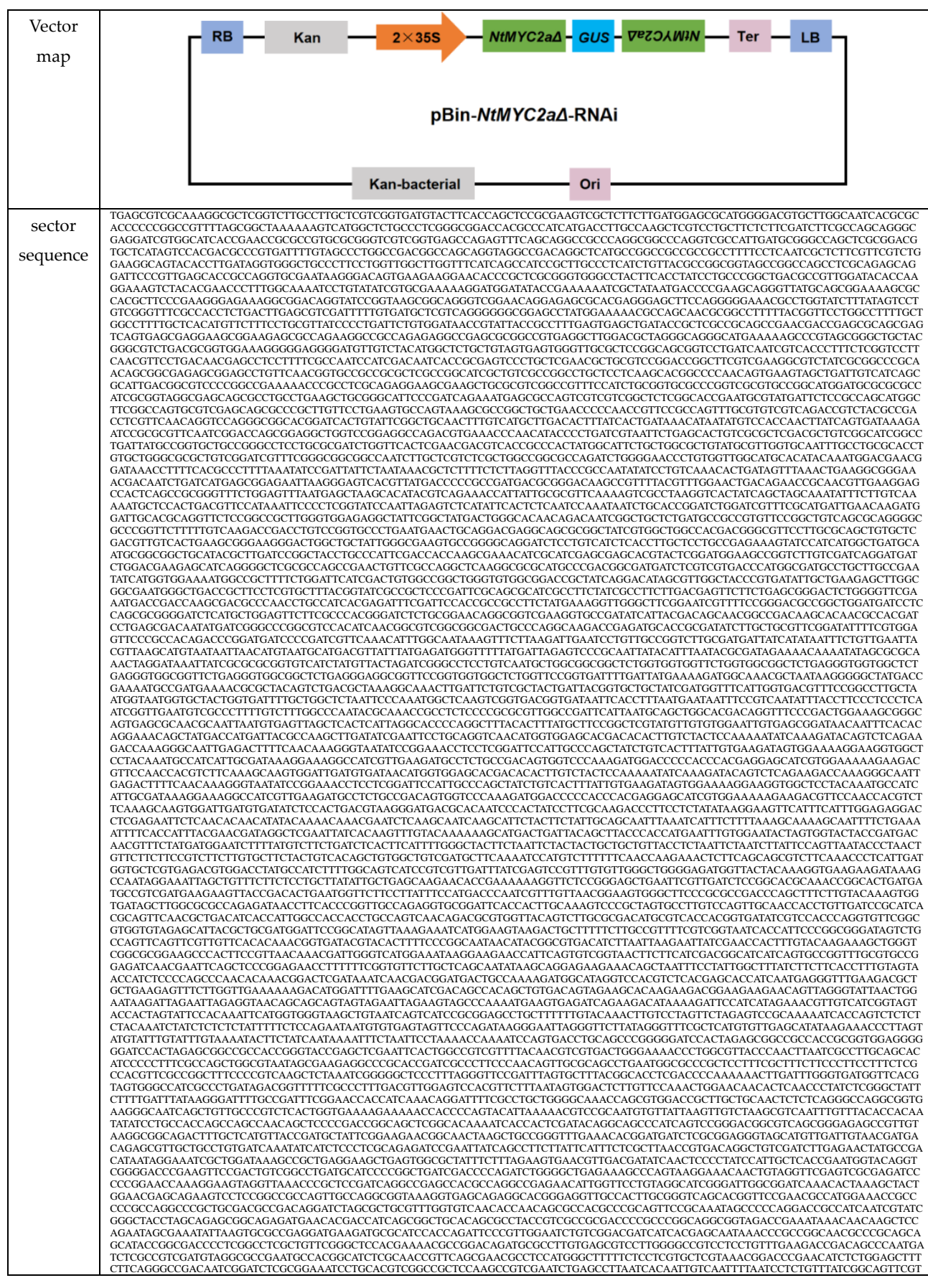
Gene	GenBank Accession	Primers	Primer Use
<i>NtMYC2a</i>	LOC107820916	5'-aaaCCGCGGATGACTGATTACAGCTTACCCA-3' 5'-GCGTGTTTCAGCAACTCTGGAT-3'	For constructing pBin- <i>NtMYC2a</i> -HA vector
<i>NtMYC2a</i>	LOC107820916	5'-aaaCCGCGGATGACTGATTACAGCTTACCCA-3' 5'-GGAAGCCCACTTCCGTTAACAAAC-3'	For constructing pBin- <i>NtMYC2a</i> Δ-RI vector
<i>NtMYC2a</i>	LOC107820916	5'-TCACCCATTTCTCTCTCTCTC-3' 5'-GAGGTAACAGCAGCAGTAGTAG-3'	For RT-qPCR
<i>AGPs</i>	AB018190	5'-GCTTTCTACAATGCCAATTGG-3' 5'-ACTGTCTGTGACATCGGCAT-3'	
<i>SS2</i>	JX264160	5'-GGCATACTGCTTTATTGCCA-3' 5'-TGGTGGAAGATCTACGTATGAAA-3'	
<i>BAM1</i>	KF420482	5'-AGCGTGTCAAGCACTAATGG-3' 5'-CTGTCCAACGGCATCATAAC-3'	
<i>NtActin</i>	X63603	5'-CCACACAGGTGTGATGGTTG-3' 5'-GTGGCTAACACCATCACCAG-3'	

Supplementary Figure S1: pBin-*NtMYC2a*-HA vector



	<p>TATTAAGTGC GCCGAGGATGAAGATGCGCATCCACCAGATTCCCGTTGGAATCTGTGCGACGATCATCAGAGCAATAAACCCGCCGGCAACGCCGCAGCAGCATACCGGGCAC CCCTCGGCCTCGCTGTTTCGGGCTCCACGAAAACGCCGGACAGATGCGCCTTGTGAGCGTCTTGGGGCCGTCTCCTGTTTGAAGACCGACAGCCCAATGATCTCGCGTCGATG TAGGGCCGCAATGCCACGGCATCTCGCAAACCGTTACAGCGAACGCCCTCCATGGGCTTTTCTCCTCGTGCTCGTAACCGGACCCGAACATCTCTGGAGCTTCTTTCAGGGCCGACA ATCGGATCTCGCGGAAATCCTGCACTGCGCGGCTCCAAAGCCGTCGAATCTGAGCCTTAATCACAATTGTCAAATTTAATCCTCTGTTTATCGGCAGTCTGTAGAGCGCGCGGTGCG TCCCGAGCGATACTGAGCGAAGCAAGTGCCTGAGCAGTGCCCGCTTGTCTCTGAAATGCCAGTAAGCGCTGGCTGCTGAACCCCCAGCCGGAACATGACCCCAAGGGCCTTA GGCTTTGCAATGCACCAAGGTCTCATTTGACCAGGCGTGTTCACACAGGCCGCTGCCCTCGCAACTCTTCGCAAGCTTCGCCGAGCTGCTCGCGCCACTCTTTCACGGCGGGTGAA TCCGATCCGCAATGAGCGGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTTCGAACATCCGTCGGGCCGTTCGGGCACAGCTTGCGGTACTTCTCC ATATGAATTCGTGTAGTGGTCGCCAGCAAAACAGCACGACGATTTCTCTGCTCAGGAACCTGCAACCGGACGTTTCTTGCCACGGTCCAGGACGGGAAGCGGTGACAGAG CGACACCGATTCCAGGTGCCAACCGCGTTCGACGTGAAGCCATCGCCGTCGCGTGTAGGCGCGACAGGCATTCTCGGCCCTTCGTGTAATACCGGCCATTGATCGACACGCC AGGTCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGCTCGCGGATAGGGGTGCGCTTCGCGTACTTCCAACACCTGCTGCCACACCAAGTTCGTATCTCGCGCCGCGAGCTCGA CGCCGGGTAGGTGATCTTACGTCTTGTGACGTGGAAAATGACCTTGTGTTTCAGCGCCTCGCGCGGATTTCTGTTGCGCGTGGTGAACAGGGCAGAGCGGGCGGTGTC GTTTGGCATCGCTCGCATCTGTTCGGGCCACGGCGCAATATCGAACAAGGAAAGCTGCATTTCCTTGATCTGCTGCTTCGTGTGTTTCAGCAACCGCGGCTGCTTGGCCTCGGTGA CCTGTTTTCGAGGTCTTCGCCGCGGTTTTTCGCTTCTTGGTCGTATAGTTCCTCGCGTGTGATGGTCAICGACTTCGCCAAACCTGCGCCTCTCTGTCGAGACGACGCGAA CGCTCCACGGCGCGGATGGCGCGGGCAGGGCAGGGGGAGCCAGTTGACGCTGTGCGCTCGATCTTGGCCGTAGCTTGTGAGCAATCGAGCCGACGGACTGGGAAGGTTTCG CGGGGCGCACGATGACGGTGGCGCTTGCATGGTTTCGGCATCTCGCGCGGAAAACCCCGCTCGATCAGTTCTTGCCGTGTATGCCCTTCGGTCAAACGTCGCTTCACTCC TCCTTTCGGGATTCGCCGACTCACGCCGGGGCAATGTGCCCTTATTCCTGATTGACCCGCTGGTGCCCTTGGTGTCCAGATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTA GACCGTCTGGCGCTCTTCTCGTACTTGGTATTCGGAATCTTGCCCTGCACGAATACCAAGCGACCCCTTGCCCAAATACTTGGCGTGGGCTCGGCTGAGAGCCAAAACACTTGA TGCGGAAGAAGTCGGTGCCTCTGCTTGTGCGCGCATCGTTGCGCCACATCTAGGTACTAAAAACAATTCTCCAGTAAAAATATAATTTATTTTCTCCCAATCAGGCTTGATCC CCAGTAAGTCAAAAAATAGCTCGACATACTGTTCTTCCCGATATCTCCTCGATCGACGGGACGCAAGAGCAATGTCATACCACTTGTCCGCTCGCCGCTTCTCCCAAGATCAA TAAAGCCACTTACTTTCGCAATCTTTCACAAAGATGTTGCTGTCTCCAGGTTCGCCGTGGGAAAAGACAAAGTTCCTCTTCGGGCTTTTCGCTCTTAAAAATCATACAGCTCGCGC GGATCTTTAAATGGAGTGTCTTCTTCCAGTTTCGCAATCCACATCGGCCAGATCGTTATTCAGTAAGTAATCCAAATCGGCTAAGCGGCTGTCTAAGCTATTCTGATAGGGACAAT CCGATATGTCGATGGAGTGAAGAGCTGATGCACTCCGCAATACAGCTCGATAATCTTTTCAGGGCTTTGTTCACTTTCATATCTTCCGAGCAAGGACGCCATCGGCTCACTCA TGAGCAGATTGCTTCAGCCATCATGCCGTTCAAGGTGCAAGGACCTTTTGGAAACAGGCAGCTTCTCCTCAGCCATAGCATCATGCTTTTCCCGTTCACATCATAGAGGTCCTCT TATACCGGCTTCGCTCAITTTTAAATATAGGTTTTCATTTTCTCCACACAGCTTATATACCTTACAGAGGACATTCCTTCCGTATCTTTTACGCGAGCGGTATTTTCGATACGTTTTT TCAATTCGGGTGATATTTTACCAATTTATTAATTTTCTTCTCTTTCTACAGTATTTAAAGATACCCCAAGAAGCTAATTAACAAAGACGAACCTCAATTTCACTGTTCTTGC ATTCTAAACCTTAAATACCAAGAAAACAGCTTTTTCAAAGTTGTTTTCAAAGTTGGCGTATAACATAGTATCGACGGAGCCGATTTTGAACACCAATATGAGGTGATGCTGCAAC TACTGATTTAGTGATATGTTGTTTTGAGGTGCTCCAGTGGCTTCTGTGCTATCAGCTGTCCCTCTCTGTTCAAGTACTGACGGGTGGTGGCTAACGGCAAAAAGCACCGCCG GACATCAGCGCTATCTGCTCTCACTGCCGTAACATGCGCACTGCAAGTTCATCTACACCGCTTCTCAACCCGGTACGACCCAGAAAATCATGATATGCCATGAATGGCGTT GGATGCCGGGCAACAGCCCGCATATGGCGCTTGGCTCAACACGATTTTACGTCACTTAAAAAACTCAGGCCGCAAGTCGGTAACCTCGCGCATACAGCCGGGCAAGTACGCTAT CGCTGCGCGGAAATGGACGAACAGTGGGGCTATGTCGGGGCTAAATCGCGCCAGCGCTGGCTGTTTACGCTTGGGAGCTCTCCCATATGGTGACCTGCAAGCGCGCCGCGAA TTCATAGTGATACCCCATATGTGATCAATTCGGGCGACGAACCCAGTGGACATAAGCCTCGTTCGGTTCGTAAGCTGTAATGCAAGTAGCGTAACCTGCCGTACGCAACTGGTCCA GAACCTTGACCGAACGCGAGCGGTGGTAACGGCGCAGTGGCGTTTTTATGGCTTCTGTTATGACATGTTTTTTTGGGGTACAGTCTATGCTCGGGCATCAAGCAAGCAAGCGCG TTACCGCGTGGGTTCGATGTTTGTATGTTATGGAGCAGCAACGATGTTACGCAAGGGCAGTCGCCCTAAACAAAGTTAAACATCATGAGAGAAAAATCACTGGATATACCACC GTTGATATATCCCAATGGCATGTAAGAACAATTTTGAAGCATTTTCACTAGTTGCTCAATGTACCTATAACAGACCGGTTACGCTGGATATTACGGCCTTTTAAAGACCGGTAAAGA AAAATAAGCAACAAGTTTATCCGGCTTTTATTCACATTTCTGCCCGCTGATGAATGCTCATCCGAGTTCGGTATGGCAATGAAGACGGGTGAGCTGGTGATATGGGATAGTGTTC ACCCTTGTACACCGTTTTTCCATGAGCAAACTGAAACGTTTTTCATCGCTCTGGAGTGAATACCAACGACGATTTCCGGCAGTTTCTACACATATATTCGCAAGATATGGCGTGTACG GTGAAAACCTGGCCTATTTCCCTAAAGGGTTATTGAGAAATATGTTTTTCGTCTCAGCAATCCCTGGGTGAGTTTACCAAGTTTGTATTTAAACGTGGCCAAATATGGACAACCTTCT CGCCCCCGTTTTTACAATGGGCAATATTATACGCAAGGGCGACAAGGTGCTGATGCCGCTGGCGATTACAGGTTATCATGCGCTTGTGATGGCTTCCATGTCGGCGAGAATGCTTAA TGAATTAACAACGTAAGTGCATGAGTGGCAGGGCGGGCGTAATTTTTTAAAGGCAGTTATTTGGTGGCATCTCTAGCTAGAAATTCGTTCAAGCCGACGCGCTTCGCGCGCGTT AACTCAAGCGATTAGATGCACTAAGCACATAATTGCTCACAGCCAAACTATCAGGTCAAGTCTGCTTTTATTAATTTTAAAGCGTGCATAATAAGCCCTACGCGTATGACAGTCTCCGG AAGACGGTGTGTCGCGACGTAATTCGGTGAACGCACTATGGCGAGCTGCGGGCTTATGAGCTGTCTGTACCCCTTTGACGCTGGTGATATGGATACGGATGGCTGGCGCTGTGA TGAATCCCGCTGAAGGGAAAGCTGCAGTAATCAGCAAGCGATATACGAGGGAATTGAGCGGCATAACCTGAATCTGAGGCGACACCTGGGACCGGTGGGACGGAAGTCGCT GTCTGTCTCAAAATCGGTGAGCTGCATGACAAAGTCATCGGGCATTTCTGAACATAAAACACTATCAATAAGTTGGAGTCAATACCAATATGATAGAAATTTACAAGCTATAAG GTTATGTCTCGGTTTTCAAGCAATAGTCCATGCAAGTTTTTATGCTTTGGCCATTCTATAGATATATTGATAAGCGCGCTGCTATGCTTGGCCCTTGAATCTCTTACATACGGCGAT ATCTTCTATATAAAAGATATATATCTTATCAGTATTTGCAATATTTCAAGGCAATCTGCCCTCTCATCTCTTCTATCTCTTCTGCTTGGTAGCTTTTAAATATGGCGCTTCTATAGAG TAATCTGTAAAAGGTCCAATTTCTCGTTTTTCATACCTCGGTATAATCTTACCTATCACCTCAAATGGTTTCGCTGGGTTTTATCGCACCCCCCAACACGAGCACGGCACCCCGACCACTA TGCCAAAGATGCCAAGGTAAAAATGCGCGCCCCGCCATGAAGTCCGTGAATGCCCCGACGGCCGAAGTGAAGGGCAGGGCCGCCACCAAGGCCGCCGCCCTCACTGCCCCGGC ACCTGGTCTGCTGAATGTGCTGACGACCTGCGGCACGTCAATGCTTCCGGCGTCGCGCTCGGGCTGATCGCCATCCCGTTACTGCCCCGATCCCGGCAATGGCAAGGACTG CCAGCGCTGCCATTTTGGGGTGAAGCCGTTTCGCGGCCGAGGGGCGCAGCCCTTGGGGGATGGGAGGCCCGGTTAGCGGGCCGGGAGGGTTCGAGAAGGGGGGGCACCCC CTTCGGCGTGGCGGTACGCGCACAGGGCGCAGCCCTGGTTAAAAACAAGGTTTATAAATATTTGGTTTAAAGCAGGTTAAAGAGCAGGTTAGCGGTGGCCGAAAAACGGGCG GAAACCCCTTGCAAAATGCTGGATTTTCTGCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGACGACTCTGCCCCCTCAAGTGTCAAGGATCGCGCCCTCATC TGTGATGATGCGCCCCCTCAAGTGTCAATACCGCAGGGCACTTATCCCCAGGCTTGTCCACATCATCTGTGGGAAACTCGCGTAAATCAGGCGTTTTTCGCCGATTTGCGAGGCT GGCCAGCTCCACGTGCGCGGCCGAAATCGAGCTGGCCCTCATCTGTCAACGCCGCGCGGGTGAGTCGGCCCTCAAAGTGTCAACGTCGCCCCCTCATCTGTGATGAGGGCC AAGTTTTCCGCGAGGTATCCACAACGCCGGCGCGCGGTGTCTGCACACGGCTTCGACGGCGTTTTCGCGCGTTTGCAGGGCATAGACGGCCGACGCCAGCGCGAGG GCAACCGCCCGG</p>
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Supplementary Figure S2: pBin-*NtMYC2a* Δ -RI vector



	AGAGCGCGCCGTGCGTCCCAGCGATACTGAGCGAAGCAAGTGCCTCGAGCAGTGCCCGCTTGTCTGAAATGCCAGTAAGCGCTGGCTGCTGAACCCCAAGCCGGAAC GACCCCAAGGCCCTAGCGTTTGCAATGCACCAAGGTCATCATTTGACCCAGGCGTGTTCACCAAGGCCGCTGCCTCGCAACTCTTCGAGGCTTCGCCGACCTGCTCGGCCAC TTCTTCACGCGGGTGGAAATCCGATCCGCACATAGAGCGGAAGGTTTCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTGCACACATCCGTCGGGGCGTCGGCGAC CAGCTTTCGGTACTTCTCCCATATGAATTTCTGTAGTGGTTCGCCAGCAAACAGCAGCAGCAGATTTCTCTGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCCACGGTCCAGG ACGCGGAAGCGGTGCACGACGCGACACCGATTCCAGGTGCCAACGCGGTTCGACGTGAAGCCCATCGCCGTCGCTGATAGGCGCGACAGGCATTCTCGGCCCTTCGTGTAATA CCGGCCATTGATCGACCAAGCCAGGTCCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGCTCGCCGATAGGGGTGCGCTTCGCGTACTTCCAACACCTGCTGCCACACCAAGTTC GTACTGTCGGCCCGCAGCTCGACGCGGTGTAGGTGATCTTCACGTCCTTGTGTACCGTGGAAATGACCTTGTTTTCGAGCGCTCGCCGGGATTTCTTGTGTGGCGGTGGTG AACAGGCGACAGCGGGCGGTGCTGTTTGGCATCGCTCGCATCGTGTCCGGCCACGGCGCAATTCGAACAAGGAAAGCTGCAATTCCTTGATCTGCTGCTTGTGTTTTCAG AACCGCGCTGCTTGGCTTCGCTGACCTGTTTGGCAAGTCTCGCCGGCGGTTTTTCGCTTCTTGGTCTGATAGTTCCTCGCGTGTCGATGGTCACTGACTTCGCCAAACCTG CCGCTCTCTGTTCCGAGACGACGCGAAACGCTCCACGGCGGCCGATGGCGGGGACGGGCGAGGGGAGCCAGTTGCACGCTGTCGCGCTCGATCTTGGCGTAGCTTGTGTGGAC ATCGAGCCGACGGACTGGAAGGTTTCGGGGGGCGCACGCATGACGGTGGCGGTTGCGGATGTTTCGGCATCTCGGCCGAAAAACCCGCGTCGATCAGTTCTTGCCTGTATGCC TTCCGGTCAAACGTCGGATTATTCACCTCCTTTCGGGGATTTCGCCGACTCACGCGGGGCAATGTGCCCTTATTCCTGATTGACCCGCTGGTGGCTTGGTGTCCAGATAATC CACCTTATCGGCAATGAAGTCGGTCCGTGAGCCGCTCGGCCGCTCTTCTGTAATCTGGGATTCGGAATCTTGCCTGCAAGAAATACCAGCGACCCCTTGGCCAAATCTTGGCGT GGGCTTCGGCTGAGAGCCAAACACTGTATCGGGAAGAAGTCGGTGGCTCTGCTTGTTCGCCGGCATCGTTCGCCACATAGGTACTAAACAATTCATCCAGTAAATA TAATATTTTATTTTCTCCCAATCAGGCTTGATCCCCAGTAAGTCAAAAAATAGCTCGACATACTGTTCTTCCCGATATCTCCCTGATCGACCGGACGAGAAAGGCAATGTCATAC CACTTGTCCGCCCTGCCGCTTCTCCCAAGATCAATAAAGCCACTTACTTGGCACTTTTCAAAAGATGTTGCTGCTCCTCCAGGTTCGGCGTGGGAAAAAGCAAGTTCTCTTCGG GCTTTTCGCTCTTAAAAAATCATACAGCTCGCGCGGATCTTTAAATGGAGTGTCTTCTTCCAGTTTTTCGCAATCCACATCGGCCAGATCGTTTACGTAAGTAATCCAATTCGG CTAAGCGGCTGTCTAAGCTATTCGTATAGGACAATCCGATATGTCGATGGAGTGAAGAGGCTGATGCACTCCGATACAGCTCGATAATCTTTTACAGGCTTGTGTCATCTTCAT ACTCTTCCGAGCAAAAGGACGCCATCGGCCTCACTCATGAGCAGATTGCTCCAGCCATCATGCGGTTCAAAGTGCAGGACCTTGGAAACAGGCACTTTCCTTCCAGCCATAGCA TCATGTCCTTTTCCCGTTCACATCATAGGTGGTCCCTTTATACCGGCTGTCGCTCATTTTAAATATAGGTTTTCATTTTCTCCACAGCTTATATACCTTAGCAGGAGACATTCCT TCCGTATCTTTTACGACGCGGTATTTTTCGATCAGTTTTCATTCGCGGTGATTTCTCATTTTACGCAITTAITATTTCTTCTCTTTTACAGTATTTAAAGATACCCCAAGAA CTAATTATAACAGACCAACTCCAATTCACTGTTCCTTGCATTCTAAACCTTAAATACCAGAAAAACAGCTTTTCAAAGTTGTTTCAAAGTTGGCGTATAACATAGTATCGACG GAGCGGATTTTGAACCAACAATTATGGGTGATGCTGCCAACTTACTGATTAGTGTATGATGGTGTTTTGAAGTGTCTCCAGTGGCTCTGTGTCTATCAGCTGTCCCTCTCTGTTCA GCTACTGACGGGGTGGTGGCTAACGGCAAGCACCGCGGACATCAGCGCTATCTCTGCTCACTGCGCTAAACATGGCAACTGCACTTACACCGCTTCTCAACCC 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