

> FAM89A Promoter
 CAGCGCCCCGGCGCAAGGAGCGACCTGCCCGGGTCTGGGGCCCCAGCCGCCCCCCGC 60
 GTCGCGGGGCGCCGCTTCCTCGCTGGACGGGCCAGACCCCGGGGTTCGGCGGGGGCGC

TAL1 E2A **ZTRE**
 GGCGAGTGGGAGG **CAGCAG** GAGGCGGGCTGGATTCCGCCCTCG **GGGAGG** CCGGGGGTCC 120
 CCGCTCACCTCCGTCGTCCTCCGCCACCTAAGCGGGAGCC **CTCCCG** GGCCCCCAGG
ZTRE

TGGGACCAGAGCCAGGCTCCTGCCCTCGACGTCTGCCGGTGTGAGCCAGAGCTCGG 180
 ACCCTGGTCTCGGTCGGGAGGACGGGAGCTCAGGACGGCCAACTCGGTCTCGGAGCC

ZF-C2H2
 TAC **CCC** ACCCCCTGCAACGGCTGCTTCGTGGGATCTGAAGCTGGGCCGCCCTTGGGC 240
 ATGGGGGT **GGGG** ACGTTGCCGGACGAAGCACCTTAGACTTCGACCCGGC **GGGG** ACCCG
PLAG1 **PLAG1**

AGGGCAGGGATCGGTGAGGCAAGGAGCTGAGGAGCGCTGGCAGGTAA **GGGG** AAGTCTGG 300
 TCCCGTCCCTAGCCACTCCGTTCTCGACTCCTCGGACCGTCCATTTCCCTTCA **GAG** ←

AGCCGGGTTGGAGGTGAGCGGGCGTTGAGGGTGGGACAGAGGGAGTGAGAGCGGGGCTG 360
 ← **CCG** CCAACCTCCACTCGCCGCAACTCCCACCTGTCTCCCTCACCCTGCCCCAG
GC-SBE

GGGGCAGCCAGTGAAC TGGGGTGGCACAGAGAGGTGGGAGCAGAGATGGGGGTGATC 420
 CCCCCTCGGTCACTTGACCCCAACCGTGTCTCCTCCACCCTCGTCTACCCCCACTAG

CGGAAGCCTGGGGTGGGGGTGAGTGGGTTCCGAGCTGAGGGTGAAGCCAGTGAGCTGAGG 480
 GCCTTCGGACCCCA **CCC** ACTACCCAAGCCTCGACTCCCACTCGGTCACTCGACTCC
ZF-C2H2

GTGGCACAGAGGGCGTGGGGCGGAAGTGGGGTGAAGCCGGAAGCTGGGGTTGGCACA 540
 CACCGTGT **CTCC** GCACCCCGCCTTGACCCCACTCGGCCCTTCGACCCCAACCGTGT
MIZ1

GAGGAGGTGGGGACAGAGATGCGGGTGAAGCCGGAAGCTGGGGTTCGGGGTGGCGCGGGT 600
 CTCTCCA **CCC** TGTCTTAGGCCACTCGGCCCTTCGACCCCAAGCCCA **CCCGCC** CA
ZF-C2H2 **TFIIB**

GAGAGGGTTCGGAGCTAGGGGTGAGCCGGAAGCTGGGAGGTGTTTCAAGGAGGTGGGG 660
 CTCTCCAAGCCTCGATCCCACTCGGCCCTTCGACCCCTCCACCAAGTCTCCCTCCACCCC
MZF1 →

→ **A** CAGAGATGGGGTGAACCGGAAGCTGCGGGTCCGGGGGGCTTAGTAGGTTCCGAGCT 720
 TGTCTTACCCCACTTGGCCCTTCGACGCCCAAGCCCGCCCAATCATCCAAGCCTCGA

AGGGAGTGGCACAGAAGGTTCTGTGACGGGGTGGAGGTGAGTCGGGGGTTAGAGGGTA 780
 TCCCTCACCGTGTCTCCCAAGCACTGCCCGACCTCCACTCAGCCCCCAATCTCCCAT

GTCACGCGGAGTTGGAGATGAATTAGGGCGCTGGAGGGCGCAGGGAGGAGGAGACCCG 840
 CAGTGGCCCTCAACTCTACTTAATCCCGGACCTCCCGCGCTCCCTCTCTCTGGGC

GGTGGAGGCGAGCCCGGCTGCTGGACGCGGACGCCACCCGGACCCGGGGCCCGCGCAGGG 900
 CCACCTCCGCTCGGGCCGACGACCTGCGCCTGCGGTGGGCTGGGCCCCGGGCGCGTCC

SP1 **KLF4** **MZF1**
 GCCTCGAGGAGAGG **GGGCGG** GCCGGGG **GGGCGTGG** CGCGGGAGGGGAAGTGGGCGGGGC 960
 CGGAGCTCCTCTCCCGGCCCGGCCCGCCCGCA **CCGCGCC** CTCCCTTACCCGCCCCG
TFIIB

ACC GCGGGGAAAGGGGGCGG **G** CCGGGGAAAGCCTTGGTTCGCTGCAGCGGGCAGGCGCG 1020
 TGGCGCCCTTCCCGGCCCGGCCCTTTCGGAACCAAGCGACGTCGCCCCGTCC **CCGC** ←

TGGCCGGGCCGCGCGCATGAGTGGGGCCGGGCGGCCCGGGGCCCGGGCAACGGC 1080
 ← **AG** CGGCCGGCGCGCTACTCACCCGGGCCCGCGGGGCCCGGGCCCGGCTTGG **CC** ←
c-Myc/Max

GCGGTCCGGGGCTCGGGTGGAC 1104
 ← **CGCC** AGGCCCCGACGCCACCTG
TFIIB

Figure 26. Proposed FAM89A Promoter Sequence Analysis with transcription factor binding sites. Top strand (+), bottom strand (-).