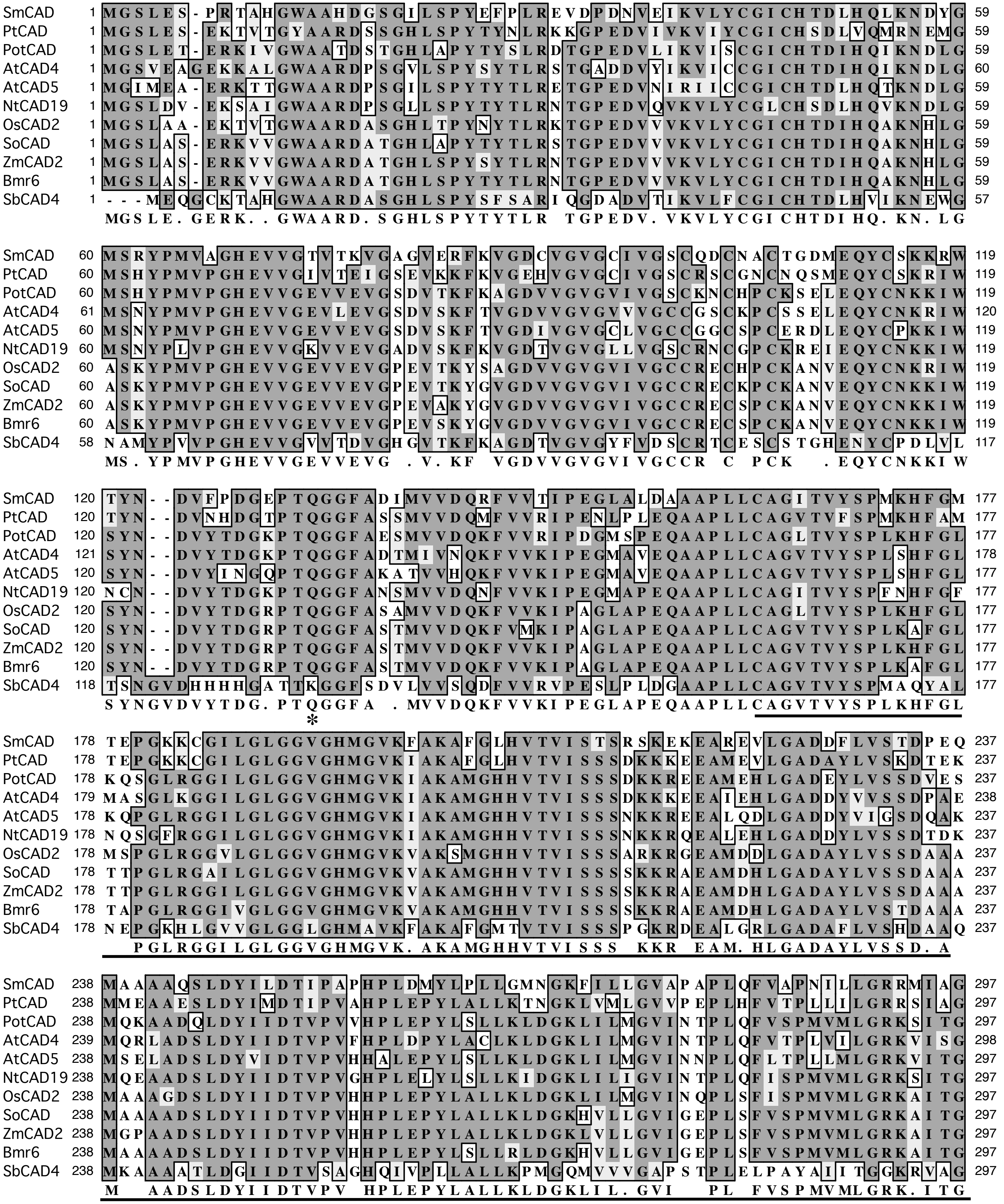

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Bmr6    178 TAPGLRGGIVGLGGVGHMGVKVAKAMGHHVTVISSSSKKRAEAMDHLGADAYLVSTDAAA 237
SbCAD4  178 NEPGKHLGVVGLGGLGHMAVKFAKAFGMTVTVISSSPGKRDEALGRLGADAFLVSHDAAQ 237
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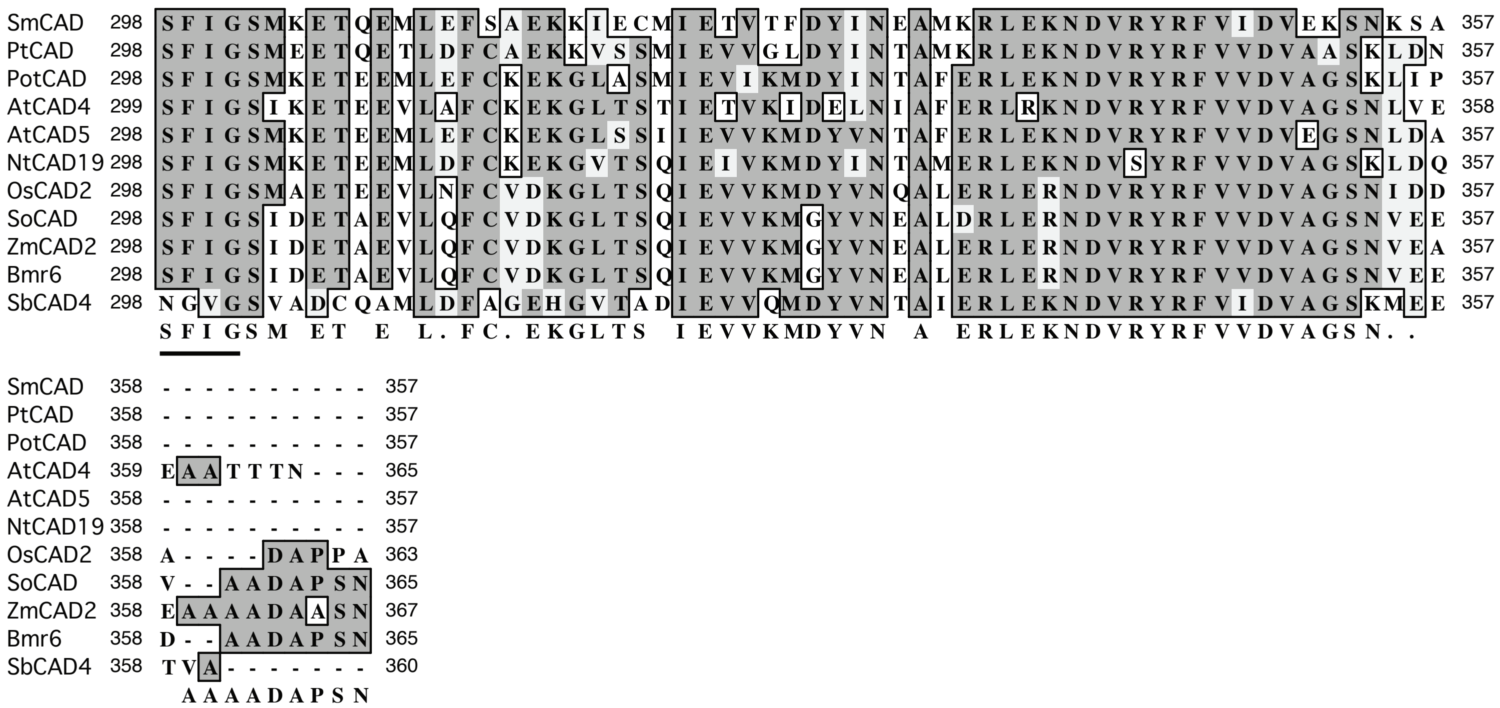

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PotCAD  358 - - - - - - - - - - 357
AtCAD4  359 E A A T T T N - - - 365
AtCAD5  358 - - - - - - - - - - 357
NtCAD19 358 - - - - - - - - - - 357
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ZmCAD2  358 E A A A A D A A S N 367
Bmr6    358 D - - A A D A P S N 365
SbCAD4  358 T V A - - - - - - - 360
              A A A A D A P S N
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Figure S1. Protein alignment of Bmr6, SbCAD4 and CAD2 sequences.
The amino acid sequences from Arabidopsis AtCAD4 (At3g19450) and AtCAD5 (At4g34230); aspen PotCAD (AAF43140); eucalyptus EgCAD2 (CAA46585); loblolly pine PtCAD (CAA86073); maize ZmCAD2 (BM1 locus) (NM_001112184); rice OsCAD2 (Os02g0187800); *Selaginella moellendorffii* SmCAD (estExt_fgenesh2_pg.C_390191); sorghum Bmr6 (Sb04g005950), SbCAD4 (Sb02g024190.1); sugarcane SoCAD (CAA13177); and tobacco NtCAD19 (CAA44217) were aligned using ClustalW. * below the alignment denotes the stop codon found in *bmr6*. The NADPH binding domain is underlined.

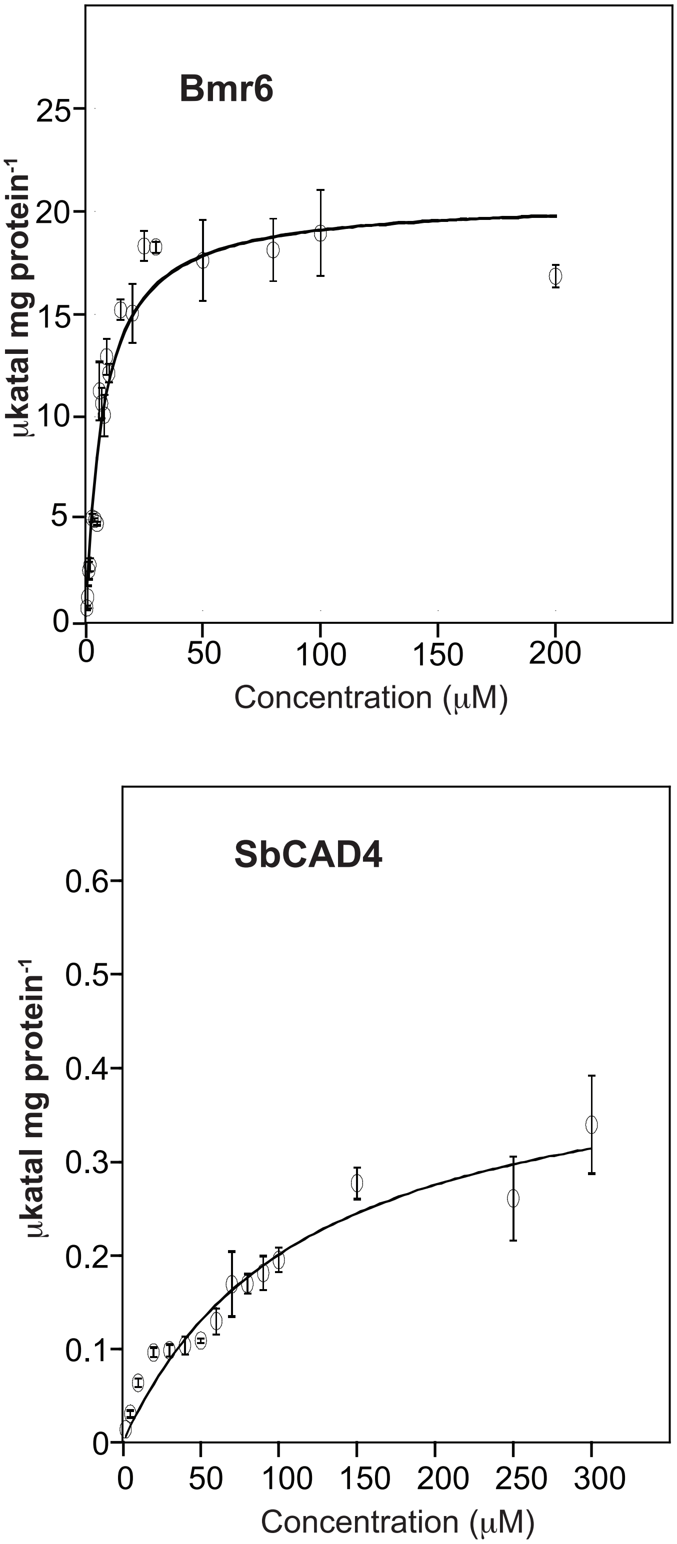

Figure S2. Bmr6 and SbCAD4 enzyme velocities for coniferyl alcohol

The enzymatic velocities for Bmr6 and SbCAD4 were measured over a range of concentrations of coniferyl alcohol in order to determine the enzyme kinetic parameters (Table I; see Materials and methods). (N=4).

Name	forward (5′-3′)	reverse (5′-3′)
cDNA	ggagaatggggagcctggcgt	ccgtcagttgctcggcgcatc
Genomic		
segment 1	ggagaatggggagcctggcgt	cctgccagtacgacaagctac
segment 2	ggagtagcttgtcgtactggcagg	ctagggggtttgtttgtgctcacccag
segment 3	gtaccctatggtccctgggtgagc	cgacgaccatggtggaggcgaagc
segment 4	gcttcgcctccaccatggtcgtcg	ccgtcagttgctcggcgcatc
segment 5	cagcccctgcaaggccaacgttgagc	gcgggctgtacaccgttacgcccg
segment 6	gtggtgaagatcccggcgggtctgg	cagaagcgcaggcagcctcgag
RT-qPCR		
Bmr6	gaggtgctccagttctgcg	cagcgcctcgttcacgtac
SbCAD4	atgctggacttcgcaggaga	ctcgatcgctgtgttgacgta
eIF4a1	tggcgaaggatggtttctaagt	ggagcggcacatagcctactc
E.coli expression		
Bmr6	gatctgggtaccatggggagcctggcgtccgagagg	ggacgcaagctttcagttgctcggcgcatcagcgg
SbCAD4	gatctgggtaccatggatatggagcagggctgc	ggccgcaagcttttaagcaacggtctcctccatc
CAPS	cacaaccactccactactgcgaac	gtcaccacaaggcatccatacg

Table S1. Primer sequences

These primers were used to amplify genomic DNA and cDNA for the experiments in this manuscript.