The Kinetic Resolution of Racemic Amines Using a Whole-Cell Biocatalyst Co-Expressing Amine Dehydrogenase and NADH Oxidase

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1. Codon optimized nucleotide sequence of AmDH

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2. Codon optimized nucleotide sequence of Nox

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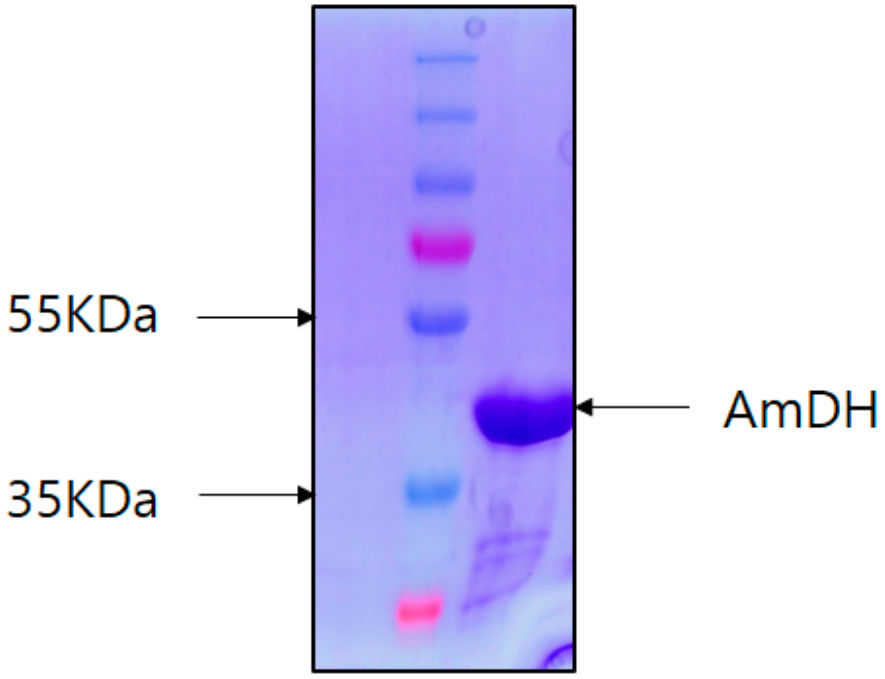
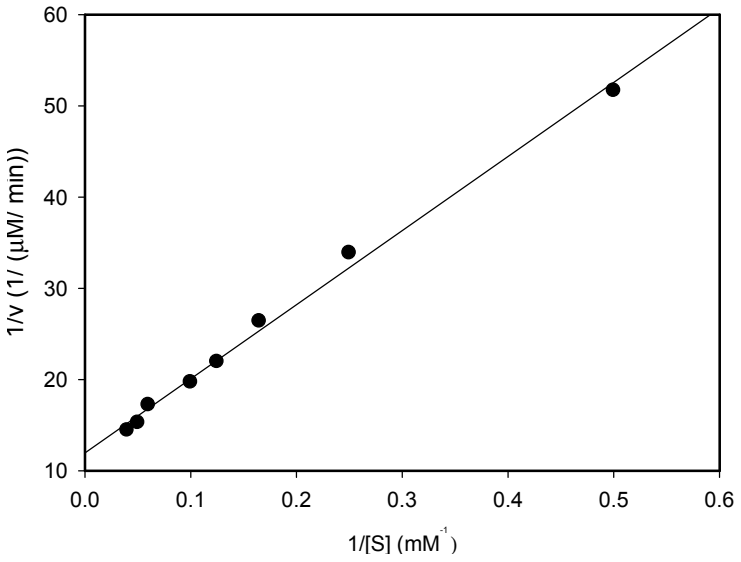
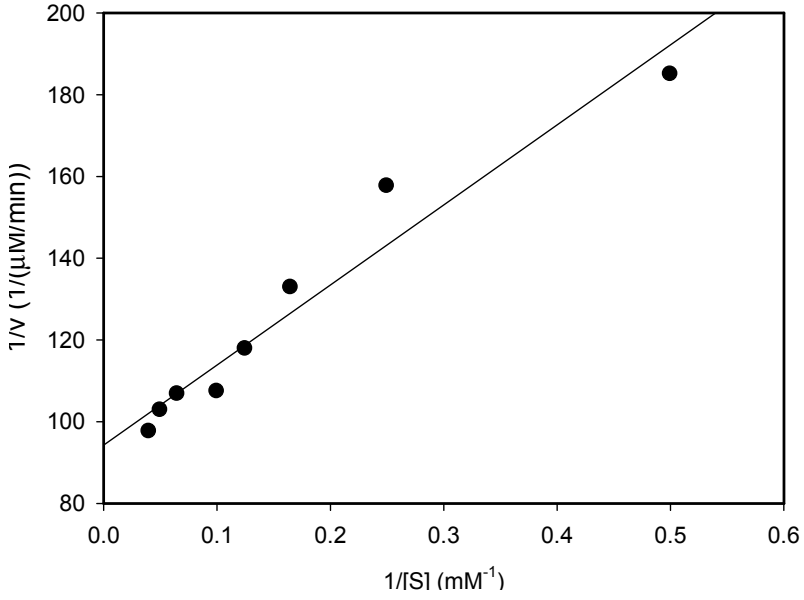


Figure S1. SDS-PAGE analysis of purified AmDH (42.37 kDa)



(a)



(b)

Figure S2. Lineweaver–Burk (double-reciprocal) plot of 1/v against 1/[S] (a) 2-aminoheptane (b) α-MBA. The reactions were carried out in 100 mM Tris/HCl (pH 8.5) containing substrate (0-30 mM), AmDH (0.3 mg/mL for 2-aminoheptane, 0.45 mg/mL for MBA), and 1 mM NAD^+ at 25 °C

Table S1. Retention times of chiral amines in HPLC analysis

Substrate[a]	Retention time (min)	
	(S)	(*R*)
a1[b]	31	42
a2[b]	31	-
a3[b]	-	42
a4[c]	40	56
a5[b]	46	53
a6[b]	47	59
a7[b]	82	108
a8[b]	97	107
a9[b]	21	-
a10[b]	-	20
a11[b]	230	240
a12[c]	25	23

[a]see Figure 2A for substrate information

[b]sample was analyzed using a Crownpak CR(+) column.

[c]sample was analyzed using a C_{18} symmetry column after GITC derivatization

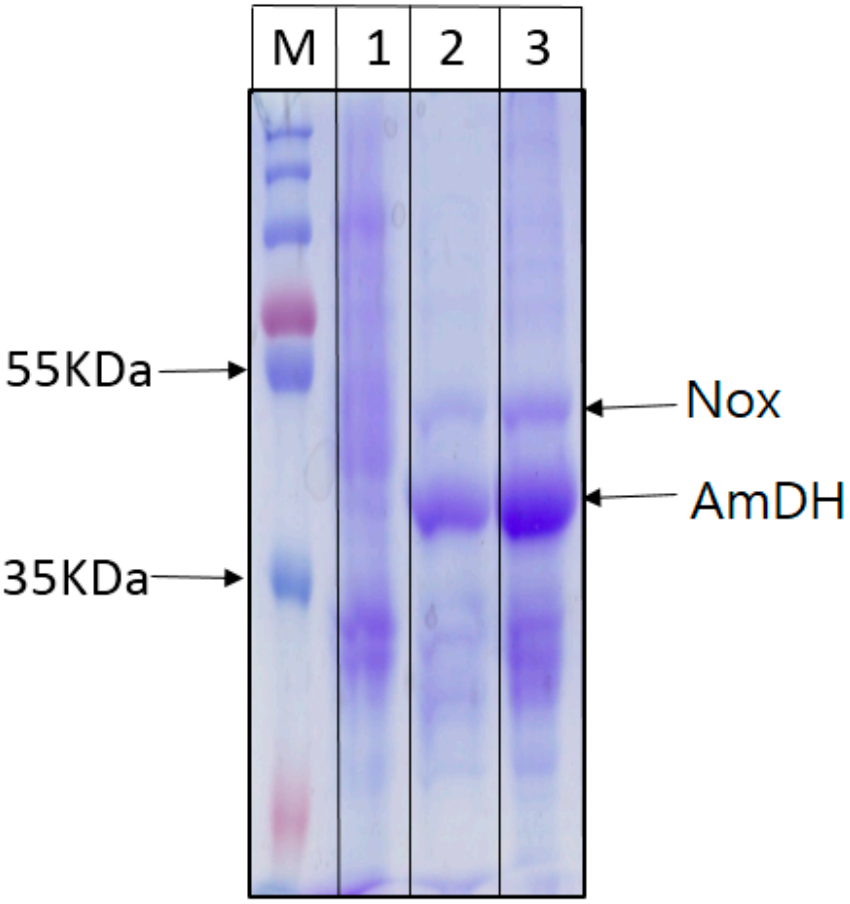


Figure S3. SDS-PAGE analysis of recombinant *Escherichia coli* expressing AmDH (42.37kDa) and Nox (50.47kDa). M, Marker; 1, control; 2, total proteins; 3, soluble proteins.