SUPPORTING INFORMATION

Kinetic characterization of adenylosuccinate synthetase from the thermophilic archaea *Methanocaldococcus jannaschii*

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Figure S1.

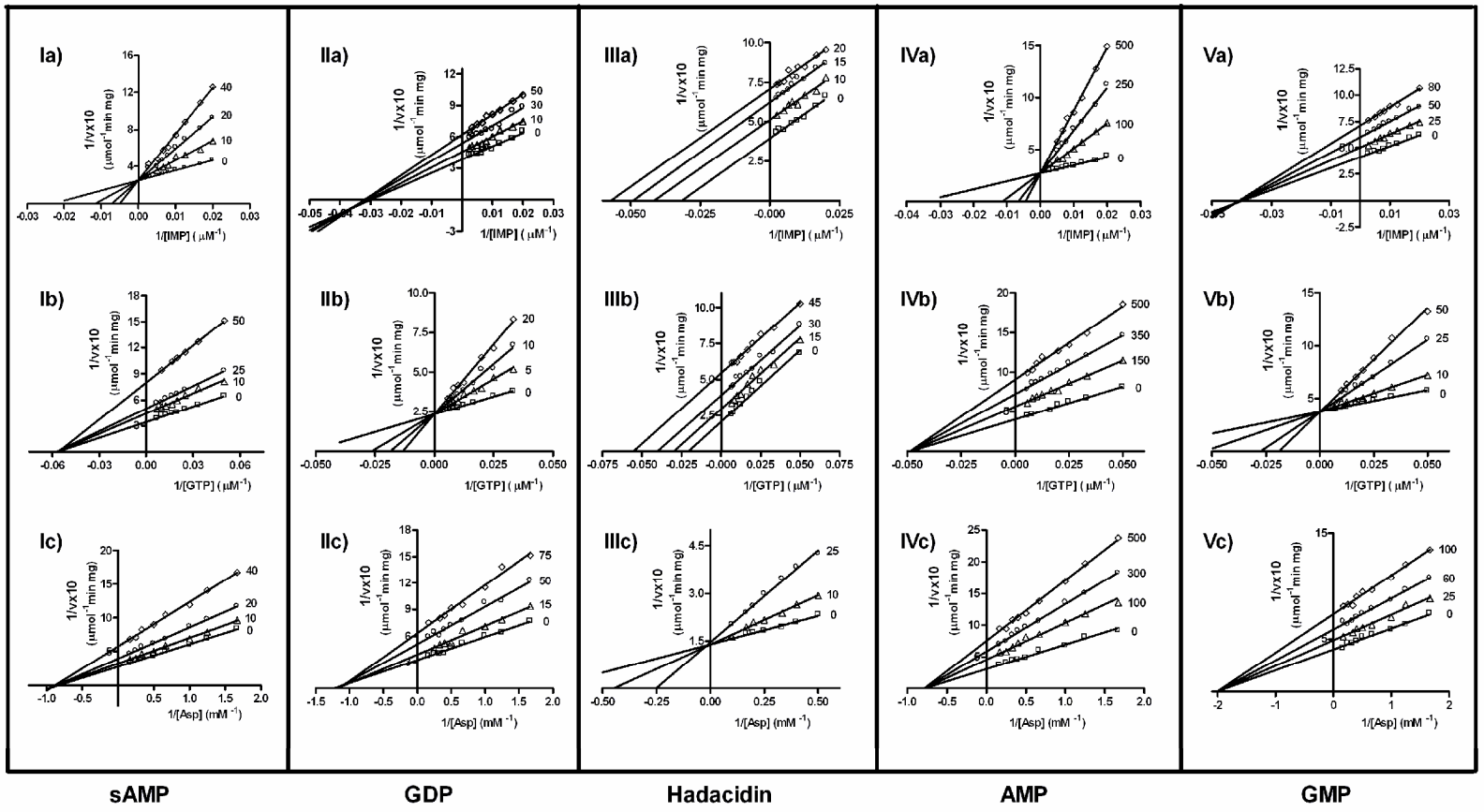
Ia)
IIa)
IIIa)
IVa)
Va)
Ib)
IIb)
IIIb)
IVb)
Vb)
Ic)
IIc)
IIIc)
IVc)
Vc)
1/vx10 (µmol-1 min mg)
1/[IMP] (µM-1)
1/[GTP] (µM-1)
1/[Asp] (mM-1)
sAMP
GDP
Hadacidin
AMP
GMP

Figure S1. Lineweaver-Burk plots for inhibition of MjAdSS by products and substrate analogs; I) adenylosuccinate (sAMP), II) GDP, III) Hadacidin, IV) AMP and V) GMP. The micromolar concentrations of inhibitors are indicated against each line. Ia) GTP and asparate were held constant at 80 µM and 4.5 mM respectively, and IMP was varied from 50 to 375 µM; Ib) Aspartate and IMP were held constant at 4.5 mM and 100 µM respectively, and GTP was varied from 20 to 150 µM; Ic) IMP and GTP were held constant at 150 µM and 80 µM respectively, and aspartate was varied from 0.6 mM to 6 mM. IIa) Aspartate and GTP were held constant at 1.5 mM and 60 µM respectively, and IMP was varied from 50 µM to 400 µM; IIb) Aspartate and IMP were held constant at 5.4 mM and 100 µM respectively, and GTP was varied from 20 µM to 175 µM; IIc) IMP and GTP were held constant at 100 µM and 80 µM respectively, and aspartate was varied from 0.6 mM to 6.0 mM. IIIa) Aspartate and GTP were held constant at 1.5 mM and 60 µM respectively, and IMP was varied from 50 µM to 400 µM; IIIb) Aspartate and IMP were held constant at 3.6 mM and 375 µM respectively, and GTP was varied from 20 µM to 150 µM; IIIc) IMP and GTP were held constant at 500 µM and 250 µM respectively, and aspartate was varied from 2 mM to 10 mM. IVa) Aspartate and GTP were held constant at 4.5 mM and 80 µM respectively, and IMP was varied from 50 µM to 350 µM; IVb) Aspartate and IMP were held constant at 1.5 mM and 100 µM respectively, and GTP was varied from 20 µM to 175 µM; IVc) IMP and GTP were held constant at 100 µM and 80 µM respectively, and aspartate was varied from 0.6 mM to 6 mM. Va) Aspartate and GTP were held constant at 1.8 mM and 80 µM respectively, and IMP was varied from 50 µM to 375 µM; Vb) Aspartate and IMP were held constant at 4.5 mM and 100 µM respectively, and GTP was varied from 20

μM to 150 μM; Vc) IMP and GTP were held constant at 150 μM and 80 μM respectively, and aspartate was varied from 0.6 mM to 6.0 mM.

Figure S2.

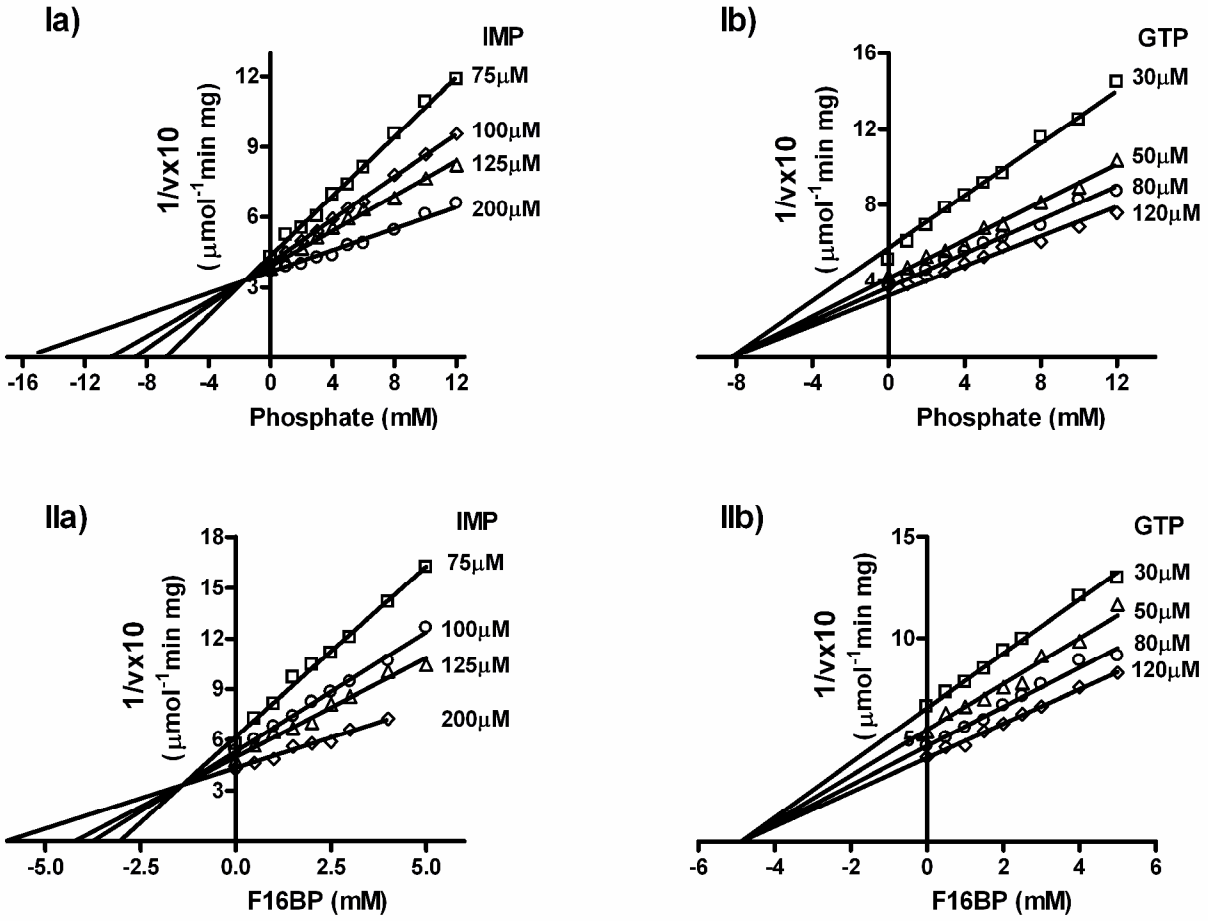
Ia)
IMP
75μM
100μM
125μM
200μM
1/vx10
(μmol-1min mg)
Phosphate (mM)
Ib)
GTP
30μM
50μM
80μM
120μM
1/vx10
(μmol-1min mg)
Phosphate (mM)
IIa)
IMP
75μM
100μM
125μM
200μM
1/vx10
(μmol-1min mg)
F16BP (mM)
IIb)
GTP
30μM
50μM
80μM
120μM
1/vx10
(μmol-1min mg)
F16BP (mM)

Figure S2. I) Dixon analysis of the inhibition of MjAdSS by Pi. Ia) Aspartate and GTP were held constant at 2 mM and 80 μM, respectively. The fixed concentration of IMP is indicated against each plot. Ib) Aspartate and IMP were held constant at 2 mM and 150 μM, respectively. Fixed concentration of GTP is indicated against each plot.

II) Dixon analysis of effect of F16BP on enzyme activity. IIa) Aspartate and GTP were kept constant at 2 mM and 80 μM, respectively. Fixed concentrations of IMP appear against each line. IIb) Aspartate and IMP were held constant at 2 mM and 150 μM, respectively. Fixed concentration of GTP is indicated against each plot.