1   **Supplemental Material**

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3   **Synthesis of D-amino acid-containing dipeptides using adenylation domains of**

4   **nonribosomal peptide synthetase**

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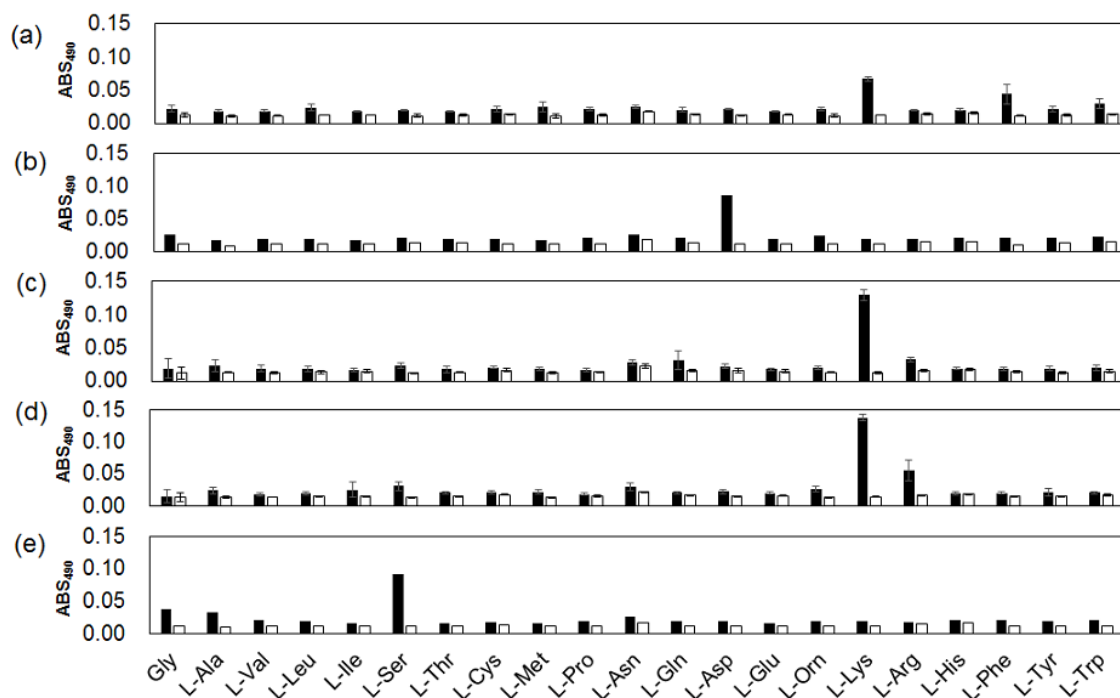
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Substrate specificities of the targeted adenylation domains.

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FIG. S1. Substrate specificity of BacB2-A (a), BacC4-A (b), PbtA1-A (c), PbtB2-A (d),

and PbtB3-A (e) toward L-amino acids. Filled bars indicate the absorbance of the reaction

mixture with enzymes and open bars indicate that of the reaction mixture without

enzymes. Error bar indicate the standard deviation based on the results of three

independent experiments.

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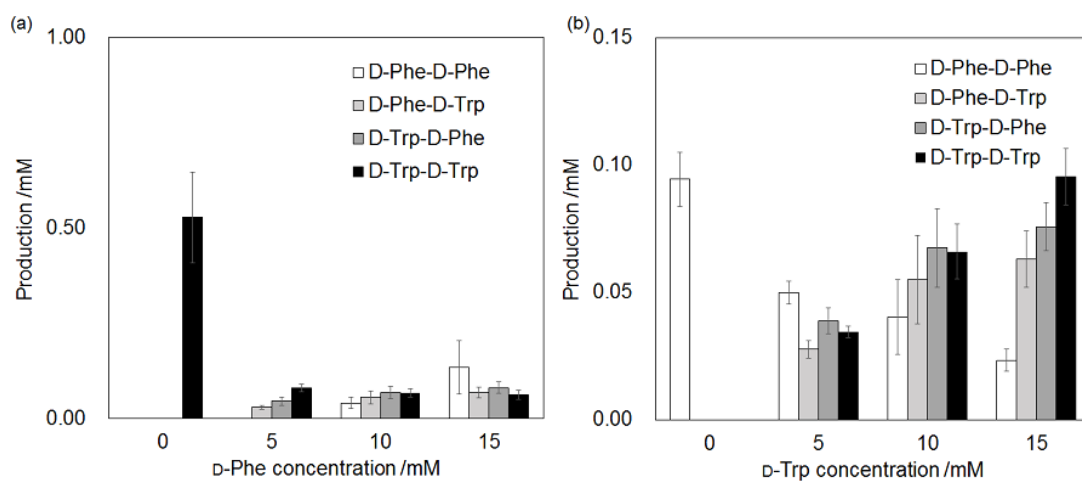
FIG. S2. The relation between the concentration of substrates and the production of the dipeptides. Panel (a) indicates the dipeptide production in the mixture containing 10 mM D-Trp and 0, 5, 10, 15 mM D-Phe, and panel (b) indicates the dipeptide production in the mixture containing 10 mM D-Phe and 0, 5, 10, 15 mM D-Trp. Error bars indicate the standard deviation based on the results of three independent experiments.

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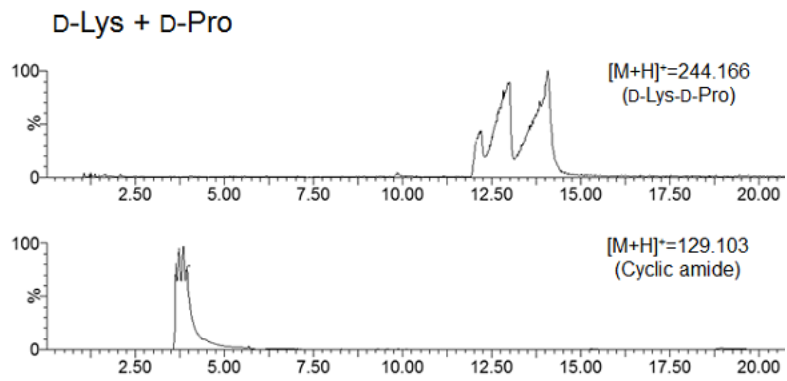
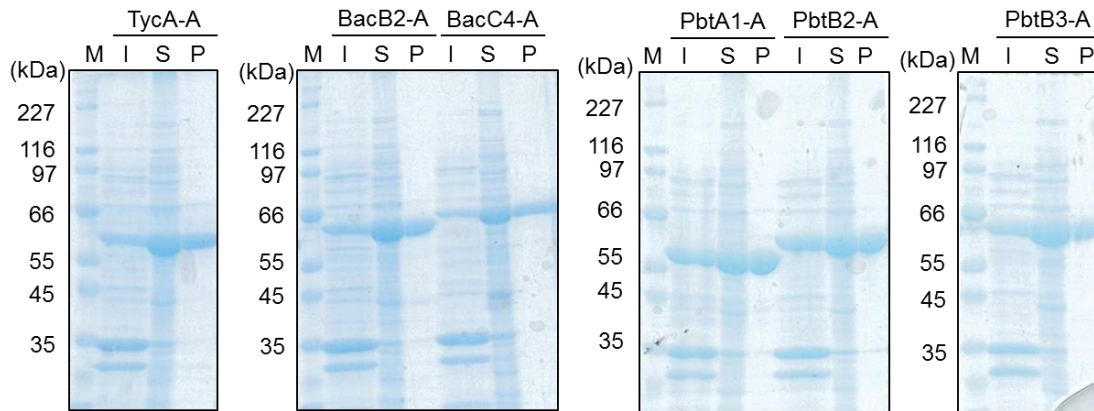FIG. S3. Activity evaluation of BacB2-A toward D-Lys. LC-MS chromatograms of the

reaction mixture containing D-Lys with D-Pro.

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SDS-PAGE analysis.

FIG. S4. SDS-PAGE analysis. Each letter indicates the fraction as following: M, Marker;

I, insoluble fraction; S, soluble fraction; P, purified enzyme.

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