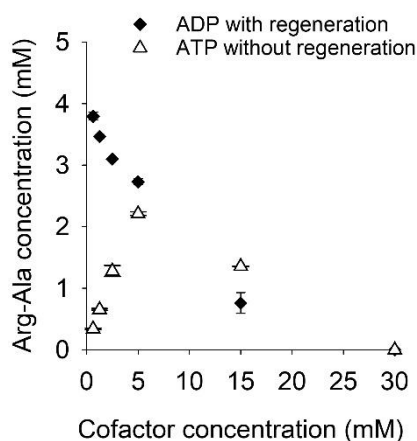


# Supplementary Material

## Recombinant Production of Arginyl Dipeptides by L-Amino Acid Ligase RizA Coupled with ATP Regeneration

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**Figure S1.** Comparison of reaction with or without regeneration. Reaction conditions were not yet optimized and were 30 mM arginine and alanine, 30 mM  $Mg^{2+}$ , 0.2 mg/mL RizA, 20 mM tricine buffer pH 8.0, 25°C, 20 h reaction time, 200  $\mu$ L reaction volume. Reactions without regeneration contained ATP with concentrations between 0.625 and 30 mM. Reactions with regeneration contained 0.25 mg/mL AckA and ADP with concentrations between 0.625 and 30 mM. Both cofactors inhibit the reaction at higher concentrations and 30 mM of each led to no detectable product.

>his6-rizA

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**Sequence S1.** DNA sequence of his6-rizA

>his6-ackA

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**Sequence S2.** DNA sequence of his6-ackA