

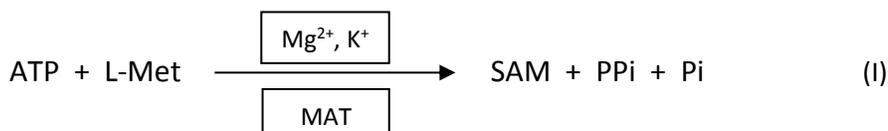
CERTIFICATE OF ANALYSIS

Product: Methionine Adenosyltransferase (MAT)

Catalog Number: AST00401

Lot Number: Lot# 510427

Quality Release Date: February 21, 2017



MAT catalytic reaction in the body is divided into two steps: (1) Catalyze L-methionine (L-Met) and adenosine triphosphate (ATP) to generate S-adenosylmethionine (known as the active methionine, SAM) and triphosphosphate (PPPi). Both SAM and PPPi remain on the surface of MAT at this stage. (2) The phosphatase activity of MAT further decompose PPPi to dimeric phosphoric acid (PPi) and inorganic monophosphate (Pi). Perform competitive ELISA to measure the product of the formula I above, i.e. SAM. The amount of SAM generated reflects the enzymatic activity of MAT.

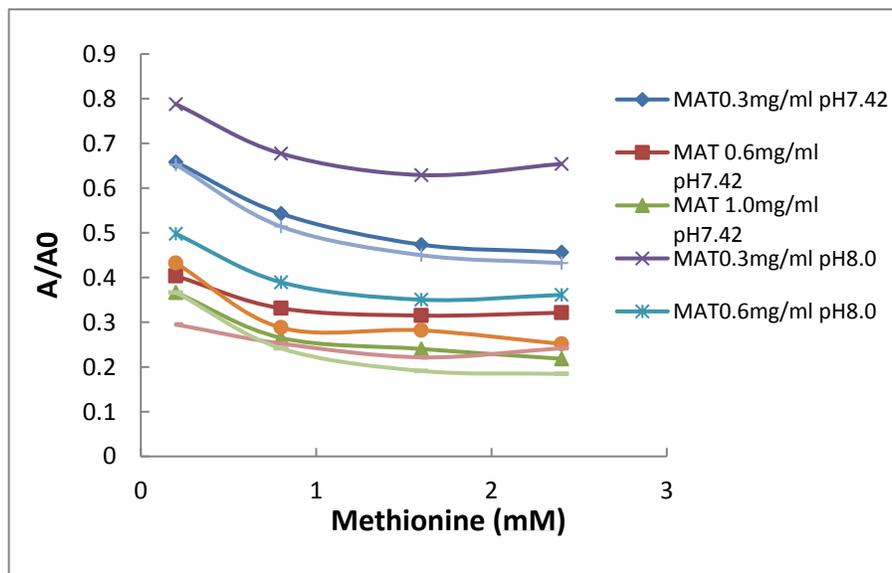


Figure 1 Levels of SAM generated at different amounts of MAT, pH and methionine substrate. A/A0 denotes OD450 of sample well vs. control well. The lower the A/A0, the higher the SAM produced, thus the higher MAT activity is as the measurement is performed as a competitive ELISA.

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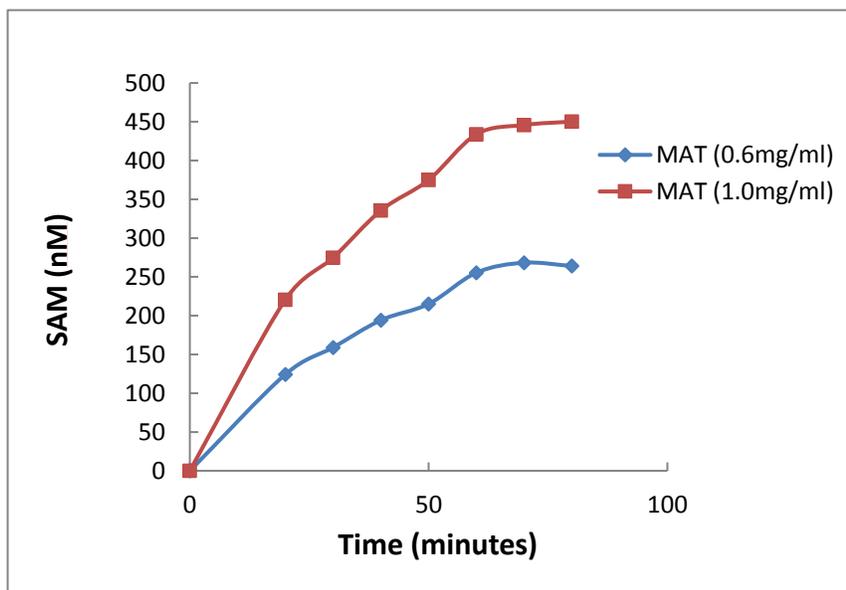


Figure 2 Time-dependent SAM production under different amount of MAT enzyme. The MAT buffer: 100mM Tris, 250mM KCl, 50mM MgSO₄, pH 7.42. The reaction was carried out at 37°C.

The data indicated that SAM synthesis reaction gets to plateau at 60 minutes. Both figures suggested that MAT is the key factor in determining the amount of SAM that may be synthesized.

Notice: Different experimental conditions or labs may produce different results from the above even if the same batch of MAT is used.



Jimmy Li
Quality Control Team

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