



6042 Cornerstone Court W, Ste B  
San Diego, CA 92121  
Tel: 1.858.202.1401  
Fax: 1.858.481.8694  
Email: info@bpsbioscience.com

**Data Sheet**  
***MAT2A Inhibitor Screening Assay Kit***  
Catalog: 71402  
Size: 384 reactions

**BACKGROUND:** Methionine Adenosyltransferase 2A (MAT2A), also known as AdoMet Synthase 2, catalyzes the formation of S-adenosylmethionine from methionine and ATP. It is an important enzyme in cellular metabolism and is expressed in extrahepatic tissues. In liver, MAT2a expression is associated with growth, dedifferentiation, and cancer.

**DESCRIPTION:** The *MAT2a Inhibitor Screening Assay Kit* is designed to measure MAT2A activity for screening and profiling applications. The MAT2A assay kit comes in a convenient 384-well format, with purified recombinant MAT2A enzyme, L-Methionine, ATP, MAT2A assay buffer, and Colorimetric detection reagent for 384 enzyme reactions.

**COMPONENTS:**

Catalog #	Reagent	Amount	Storage	
71401	MAT2A	250 µg	-80°C	<b><i>Avoid multiple freeze/thaw cycles!</i></b>
	5x MAT2A Assay Buffer	3 ml	-20°C	
	ATP (750 µM)	1 ml	-20°C	
	L-Methionine (750 µM)	1 ml	-20°C	
74001	Colorimetric Detection Reagent*	2 x 10 ml	+4°C	
	Transparent 384-well plate	1	Room Temp.	

\*Colorimetric Detection Reagent is used to measure the free phosphate from the MAT2A reaction. Any source of inorganic phosphate can interfere with the assay.

**MATERIALS OR INSTRUMENTS REQUIRED BUT NOT SUPPLIED:**

UV/Vis spectrophotometer microplate reader capable of reading absorbance at 630 nm  
Adjustable micropipettor and sterile tips  
Rotating or rocker platform (optional)  
Aluminum foil

**APPLICATIONS:** Great for studying enzyme kinetics and screening small molecular inhibitors for drug discovery and HTS applications.

**STABILITY:** Up to 6 months from date of receipt, when stored as recommended.

**REFERENCE:** Frau, M., *et al.*, *Hepatology*, **56 (1)**, 165-175 (2012)

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: [info@bpsbioscience.com](mailto:info@bpsbioscience.com)

Please visit our website at: [www.bpsbioscience.com](http://www.bpsbioscience.com)



6042 Cornerstone Court W, Ste B  
San Diego, CA 92121  
Tel: 1.858.202.1401  
Fax: 1.858.481.8694  
Email: info@bpsbioscience.com

## ASSAY PROTOCOL:

*All samples and controls should be tested in duplicate.*

1. Thaw **5x MAT2A assay buffer**, **ATP**, and **L-Methionine** on ice.
2. Prepare the master mixture (10  $\mu$ l per well): N wells x (3  $\mu$ l **5x MAT2A Assay Buffer** + 2.5  $\mu$ l **ATP** + 2.5  $\mu$ l **L-Methionine** + 2  $\mu$ l water). Add 10  $\mu$ l to every well. Store the remaining **ATP and L-Methionine** at -20°C in single use aliquots.

	Positive Control	Test Inhibitor	Blank
5x MAT2A Assay Buffer	3 $\mu$ l	3 $\mu$ l	3 $\mu$ l
ATP	2.5 $\mu$ l	2.5 $\mu$ l	2.5 $\mu$ l
L-Methionine	2.5 $\mu$ l	2.5 $\mu$ l	2.5 $\mu$ l
Water	2 $\mu$ l	2 $\mu$ l	2 $\mu$ l
Test Inhibitor	-	5 $\mu$ l	-
5% DMSO in water (Inhibitor buffer)	5 $\mu$ l	-	5 $\mu$ l
1x MAT2A Assay Buffer	-	-	10 $\mu$ l
MAT2A (60 ng/ $\mu$ l)	10 $\mu$ l	10 $\mu$ l	-
Total	25 $\mu$ l	25 $\mu$ l	25 $\mu$ l

3. Add 5  $\mu$ l of Inhibitor solution of each well labeled as "Test Inhibitor". For the wells labeled "Positive Control" and "Blank", add 5  $\mu$ l of 5% DMSO in water (Inhibitor buffer). *Note: Do not dilute inhibitor in phosphate-based buffers, as phosphates will interfere with the Colorimetric Detection Reagent.*
4. Prepare **1x MAT2A Assay Buffer** by diluting **5x MAT2A Assay Buffer** with water. For 100 reactions, prepare 1 ml **1x MAT2A Assay Buffer** by mixing 200  $\mu$ l of **5x MAT2A Assay Buffer** with 800  $\mu$ l water. Dilute only enough buffer required for the assay. Store remaining **5x MAT2A Assay Buffer** at -20°C in single-use aliquots.
5. To the wells designated as "Blank", add 10  $\mu$ l of **1x MAT2A Assay Buffer**.
6. Thaw **MAT2A** enzyme on ice. Upon first thaw, briefly spin tube containing enzyme to recover full contents of the tube. Calculate the amount of **MAT2A** required for the assay and dilute enzyme to ~60 ng/ $\mu$ l with **1x MAT2A Assay Buffer**. Aliquot remaining **MAT2A** enzyme into single-use aliquots. Store remaining undiluted enzyme in aliquots at -80°C. *MAT2A enzyme is sensitive to freeze/thaw cycles. Avoid multiple freeze/thaw cycles. Do not re-use thawed aliquots or diluted enzyme.*

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

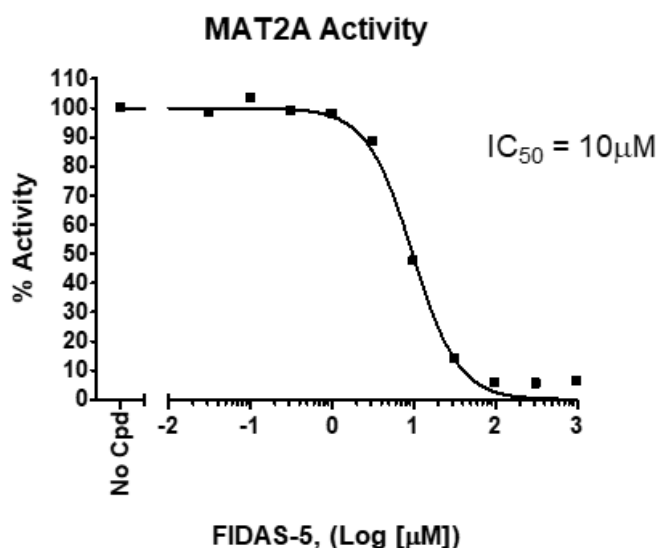
To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: [info@bpsbioscience.com](mailto:info@bpsbioscience.com)

Please visit our website at: [www.bpsbioscience.com](http://www.bpsbioscience.com)

7. Initiate the reaction by adding 10  $\mu$ l of diluted **MAT2A** enzyme to the wells designated "Positive Control" and "Test Inhibitor Control". **Incubate at room temperature for one hour.**
8. After the reaction, add 50  $\mu$ l of **Colorimetric Detection Reagent** into each well. Cover the plate with aluminum foil and incubate the plate at room temperature for 15 minutes. During the 15 minute incubation, the plate can be placed on a rocker platform (optional).
9. Set the microplate reader and read Absorbance at 630 nm. Subtract "Blank" value from all other values.

#### Example of Assay Results:



MAT2A inhibition by FIDAS-5 (EMD Millipore, #504173), measured using the MAT2A Inhibitor Screening Assay Kit, BPS Bioscience Cat. 71402. The compound was pre-incubated with the MAT2a enzyme for 30 min before the reaction was initiated with the addition of master mix. The absorbance at 630 nm was measured using a Tecan Infinite M1000 microplate reader. *Data shown is lot-specific. For lot-specific information, please contact BPS Bioscience, Inc. at [info@bpsbioscience.com](mailto:info@bpsbioscience.com)*

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: [info@bpsbioscience.com](mailto:info@bpsbioscience.com)

Please visit our website at: [www.bpsbioscience.com](http://www.bpsbioscience.com)



6042 Cornerstone Court W, Ste B  
San Diego, CA 92121  
**Tel:** 1.858.202.1401  
**Fax:** 1.858.481.8694  
**Email:** [info@bpsbioscience.com](mailto:info@bpsbioscience.com)

**RELATED PRODUCTS:**

<b><u>Product Name</u></b>	<b><u>Catalog #</u></b>	<b><u>Size</u></b>
MAT2A, His-tag	71401	100 µg
MTAP, GST-tag	50305	50 µg
S-Adenosylmethionine	52120	250 µl
S-adenosyl homocysteine, Fluorescein-labeled	52012	20 µl
Anti-Adenosyl Homocysteine Antibody	52030	1 ml
Adenosine Deaminase (ADA), His-tag	70016	100 µg
AHCY, GST-tag	50260	50 µg

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: [info@bpsbioscience.com](mailto:info@bpsbioscience.com)

Please visit our website at: [www.bpsbioscience.com](http://www.bpsbioscience.com)