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**Lab Dept:** Chemistry

**Test Name:** S-ADENOSYLMETHIONINE (SAmE) & S-ADENOSYLHOMOCYSTEINE (SAH), BLOOD

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***General Information***

**Lab Order Codes:** SAMH

**Synonyms:** SAmE; SAH

**CPT Codes:** 83789 – Mass spectrometry and tandem mass spectrometry (MS, MS/MS); quantitative analyte not elsewhere specified.

**Test Includes:** SAmE & SAH levels reported in nmol/L.

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***Logistics***

**Test Indications:** S-adenosylhomocysteine (SAH) is a by-product of all methylation reactions and is rapidly metabolized to homocysteine. Increased levels of SAH may occur when the intracellular concentration of homocysteine increases. Since SAH has been shown to inhibit methylation dependent reactions the ratio of S-adenosylmethionine (SAM) to SAH is often used as an index of methylation status.

S-adenosylmethionine (SAmE) is the major methyl donor in numerous methylation reactions such as proteins, DNA, phospholipids and neurotransmitters. Decreased levels of SAmE commonly occur in the presence of folate and cobalamin (vitamin B12) deficiency. Low SAmE levels have been associated with depression, dementia, vacuolar myelopathy and liver disease.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Baylor Institute of Metabolic Disease

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 14 days

**Special Instructions:** This research test must be coordinated through the Neuropharmacology Laboratory Director. Most research tests are performed on a batch basis; the laboratory will not perform single sample testing. Contact the Neuropharmacology Laboratory Director ph:(214) 820-4533 for more information.

Please include information for patient regarding: current medications and relevant patient history.

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### ***Specimen***

**Specimen Type:** Blood

**Container:** Green top (Li Heparin) tube

**Draw Volume:** 1 mL blood

**Processed Volume:** 0.25 mL plasma

**Collection:** Routine venipuncture, invert specimen gently to mix.

**Special Processing:** N/A

**Patient Preparation:** Lab Staff: Centrifuge specimen within 1 hour of collection, remove plasma aliquot into a screw-capped round bottom plastic vial. Store at -80 C until transport. Ship sample overnight **Monday – Wednesday ONLY** with 3-4 lbs of dry ice using guaranteed overnight courier. Contact reference lab at ph:(214) 820-4533 prior to sending . Forward promptly.

**Sample Rejection:** Mislabeled or unlabeled specimens

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### ***Interpretive***

<b>Reference Range:</b>	<b>Test:</b>	<b>Reference range (nmol/L):</b>
	SAMe:	33.0 – 94.8 nmol/L
	SAH:	13.2 – 28.2 nmol/L

**Critical Values:** N/A

**Limitations:** Research categorized test

**Methodology:** HPLC and UV detection

**References:** [Institute of Metabolic Disease at Baylor Research Institute](#) October 2014