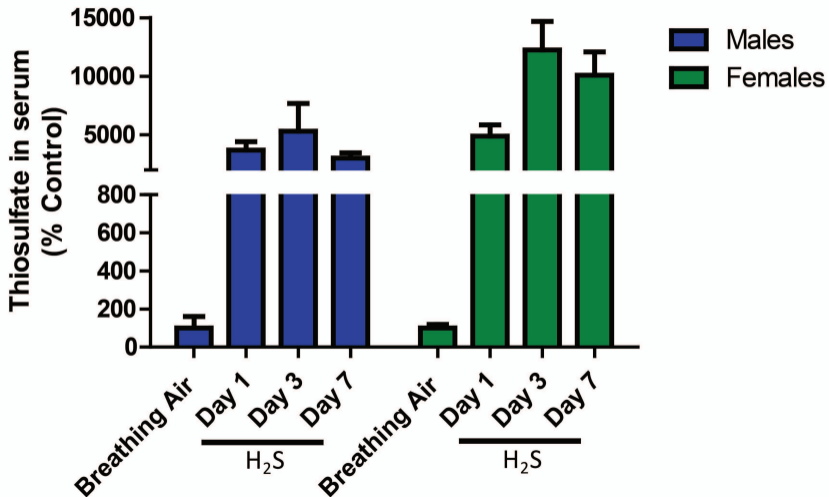


# Thiosulfate



## Semi-Quantitative Grading Scheme for H<sub>2</sub>S-induced Neuropathology

Score	Neurons: Clumped Nissl or central chromatolysis	Neurons: Angular, shrunken neurons or early apoptotic neurons	Neurons: Loss of neurons	Glia: Astrocytes	Glia: Microglia/ macrophages	Apoptotic bodies	Neuropil: Pallor or Vacuoles
0	None	None	No loss	Normal morphology	Normal morphology	None	Solid, bright eosinophilic
1	Mild	<2/20X		Clumped chromatin		<2/20X	Slightly pale eosinophilic
2		2-5/20X			Rare amoeboid	2-5/20X	Finely vacuolated
3	Moderate	6-10/20X	~50% loss	Type II Alz cells	Many amoeboid	6-10/20X	Coarsely vacuolated
4		11-15/20X			Mixed amoeboid/Gitter	11-15/20X	Condensation of vacuoles
5	Severe	>15/20X	100% loss	Loss of astrocyte pop'ns	Gitter cells present	>15/20X	Loss of large areas of neuropil

Supplemental Table 1. Summary of functional observational battery evaluation during H <sub>2</sub> S			
Clinical effects in mice during H <sub>2</sub> S exposure			
		Breathing Air	H <sub>2</sub> S
<b>Autonomic</b>			
Lacrimation		No	present
Salivation		No	present
Urination/Defecation		Normal	increased
<b>Convulsions</b>			
Tonic movements		No	mild
Clonic movements		No	severe
Paddling feet		No	severe
<b>General Measures</b>			
Piloerection		No	present
Body Posture		Normal	hunched
Dyspnea		No	present
<b>Gait</b>			
Hindlimbs splayed		No	present
Ataxia		No	severe
Unable to support weight		No	present

Supplemental Table 3. Neurochemical changes in various brain regions			Breathing Air		H2S					
					Day 1		Day 3		Day 7	
Inferior Colliculus	5-HT									
		Male	100.00	±5.33	130.40	±6.19**	125.10	±23.59	120.80	±6.74*
		Female	100.00	±30.69	176.80	±16.63*	186.70	±11.64*	109.80	±7.33
	5-HIAA									
		Male	100.00	±5.85	98.23	±6.83	118.60	±9.20	133.80	±21.28
		Female	100.00	±8.98	131.70	±9.10	118.80	±5.17	109.20	±4.85
Thalamus	NE									
		Male	100.00	±3.98	72.48	±4.457**	53.75	±22.61	66.19	±17.5
		Female	100.00	±8.35	110.10	±9.99	93.34	±5.00	105.60	±4.93
	5-HT									
		Male	100.00	±57.75	399.10	±65.91*	208.00	±130.60	298.10	±101.20
		Female	100.00	±17.67	93.36	±6.69	42.90	±2.36*	82.55	±22.35
Cortex	5-HIAA									
		Male	100.00	±4.61	108.30	±6.521	103.40	±23.83	121.80	±22.77
		Female	100.00	±19.20	63.65	±11.93	47.77	±13.99	53.51	±16.55
	NE									
		Male	100.00	±4.45	89.03	±10.32	121.50	±34.36	195.80	±16.25**
		Female	100.00	±37.63	128.90	±31.32	73.43	±30.14	243.90	±101.30
Striatum	5-HT									
		Male	100.00	±9.14	190.20	±78.88	56.76	±20.12	61.23	±4.63*
		Female	100.00	±4.02	114.10	±2.91	91.69	±2.93	94.86	±6.66
	5-HIAA									
		Male	100.00	±3.32	153.90	±44.84	79.85	±26.7	85.94	±6.70
		Female	100.00	±22.92	161.40	±32.19	33.97	±15.87*	7.85	±0.62**
Striatum	NE									
		Male	100.00	±7.64	83.91	±17.35	88.99	±21.79	113.70	±9.78
	Female	100.00	±68.55	361.40	±67.30*	145.10	±13.22	75.93	±24.57	