

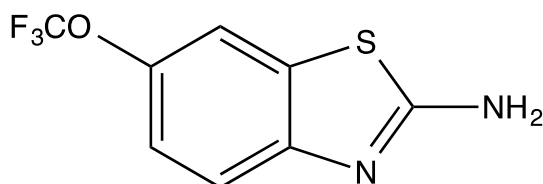
**Catalog #10-2815**

**Riluzole**

CAS# 1744-22-5

2-Amino-6-(trifluoromethoxy)benzothiazole

Lot # FBS1051



Riluzole is a clinically useful drug for the treatment of amyotrophic lateral sclerosis (ALS).<sup>1</sup> Riluzole inhibits glutamate release *via* inactivation of voltage-dependent ion channels, effects expression and signal transduction of glutamate receptors, and facilitates glutamate uptake.<sup>2,3,4</sup> It has also been investigated as a treatment for depression and anxiety.<sup>5</sup> Riluzole induced apoptosis in mGluR1-expressing melanoma cells<sup>6</sup>, inhibited cell proliferation in a U87MG glioblastoma model *via* blockage of glutamate release<sup>7</sup>, and inhibited the growth of brain tumor stem-like cells *via* downregulation of GLUT3.<sup>8</sup>

- 1) Bellingham (2011), *A review of the neural mechanisms of action and clinical efficiency of riluzole in treating amyotrophic lateral sclerosis: what have we learned in the last decade*; CNS Neurosci. Ther. **17** 4
- 2) Urbani and Belluzzi (2000), *Riluzole inhibits the persistent sodium current in mammalian CNS neurons*; Eur.J.Neurosci. **12** 3567
- 3) Frizzo *et al.* (2004), *Riluzole enhances glutamate uptake in rat astrocyte cultures*; Cell Mol. Neurobiol. **24** 123
- 4) Doble (1996), *The pharmacology and mechanism of action of riluzole*; Neurology **47** S233
- 5) Pittenger *et al.* (2008), *Riluzole in the treatment of mood and anxiety disorders*; CNS Drugs **22** 761
- 6) Namkoong *et al.* (2007), *Metabotropic glutamate receptor 1 and glutamate signaling in human melanoma*; Cancer Res. **67** 2298
- 7) Zhang *et al.* (2015), *Anti-cancer effect of metabotropic glutamate receptor inhibition in human glioma U87 cells: involvement of PI3K/Akt/mTOR pathway*; Cell Physiol. Biochem. **35** 419
- 8) Sperling *et al.* (2017), *Riluzole: a potential therapeutic intervention in human brain tumor stem-like cells*; Oncotarget **8** 96697

**PHYSICAL DATA**

Molecular Weight:	234.20
Molecular Formula:	C <sub>8</sub> H <sub>5</sub> F <sub>3</sub> N <sub>2</sub> OS
Purity:	>98% (TLC)
	NMR: (Conforms)
Solubility:	DMSO (> 25 mg/mL) and ethanol (>25 mg/mL)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at room temperature for up to 1 year from the date of purchase. Solutions of DMSO or ethanol may be stored at -20°C for up to 2 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462

[www.focusbiomolecules.com](http://www.focusbiomolecules.com)