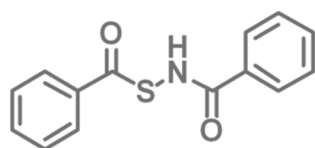


# Thiol-Activated Hydrogen Sulfide Donor

- SulfoBiotics- H<sub>2</sub>S donor 5a [Code#: SB07-10] 10 mg
- SulfoBiotics- H<sub>2</sub>S donor 8ℓ [Code#: SB08-10] 10 mg
- SulfoBiotics- H<sub>2</sub>S donor 8o [Code#: SB09-10] 10 mg

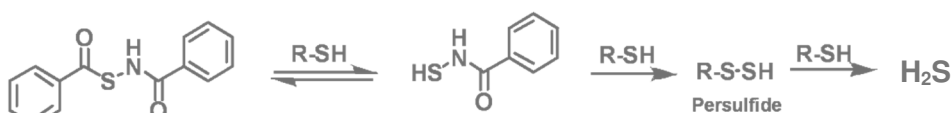


## -SulfoBiotics- H<sub>2</sub>S donor 5a



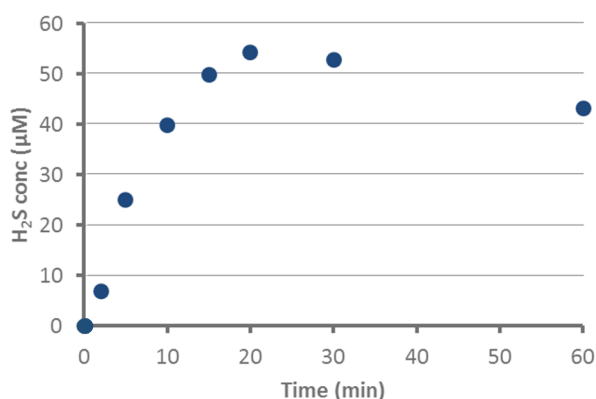
H<sub>2</sub>S Donor 5a

Hydrogen sulfide donor 5a releases H<sub>2</sub>S upon reaction with reducing agents containing sulfhydryl groups such as cysteine and reduced glutathione. The donor is stable in aqueous solutions, whereas it decomposes and releases H<sub>2</sub>S in biological samples containing thiols such as blood, tissues or cells. This reaction mimics releasing mechanism of H<sub>2</sub>S in vivo.



H<sub>2</sub>S Releasing Mechanism of Donor 5a

### H<sub>2</sub>S RELEASING DATA



Conditions:  
H<sub>2</sub>S Donor: 100 µM  
GSH: 5 mM

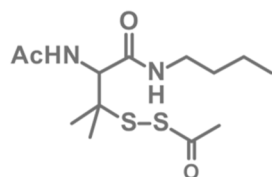
H<sub>2</sub>S Releasing Curve of Donor 5a in PBS

### REFERENCE

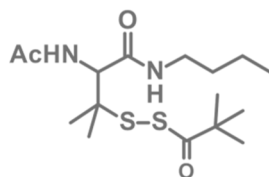
- 1) Y. Zhao, H. Wang, and M. Xian, *J. Am. Chem. Soc.*, **2011**, *133*, 15.

## -SulfoBiotics- H<sub>2</sub>S donor 8ℓ

## -SulfoBiotics- H<sub>2</sub>S donor 8o



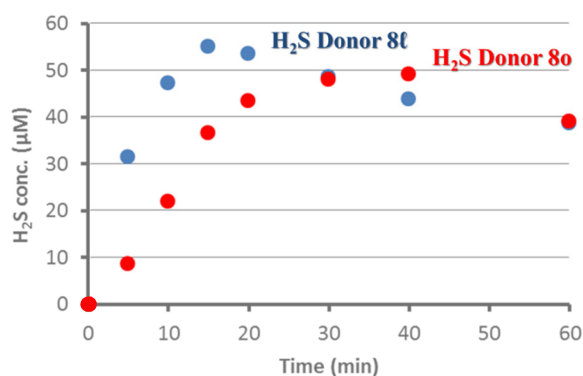
H<sub>2</sub>S Donor 8ℓ



H<sub>2</sub>S Donor 8o

Thiol-activated hydrogen sulfide donors 8ℓ and 8o prepared from penicillamine release H<sub>2</sub>S upon reaction with reducing agents containing sulfhydryl groups such as cysteine and reduced glutathione in a similar manner to 5a. The H<sub>2</sub>S releasing rates depend on concentrations of thiols, and donor 8o gives a slower H<sub>2</sub>S releasing rate than donor 8ℓ. These donors are useful to investigate the effects of H<sub>2</sub>S releasing rates on cellular functions.

### H<sub>2</sub>S RELEASING DATA



Conditions:  
H<sub>2</sub>S Donor: 100 µM  
GSH: 5 mM

H<sub>2</sub>S Releasing Curves of Donor 8ℓ and 8o in PBS

### REFERENCE

- 1) Y. Zhao, S. Bhushan, C. Yang, H. Otsuka, J. D. Stein, A. Pacheco, B. Peng, N. O. Devarie-Baez, H. C. Aguilar, D. J. Lefer, and M. Xian, *Chem. Biol.*, **2013**, *8*, 1283.

### CHARACTERISTICS OF H<sub>2</sub>S DONOR

Donor Name	Main Structure	Releasing Mechanism	Releasing Area	Releasing profile
Na <sub>2</sub> S	inorganic	-	extracellular	immediate
GY4137	Lawson's reagent	Hydrolysis	extracellular	slowly and sustainably
H <sub>2</sub> S donor 5a	<i>N</i> -(Benzoylthio)benzamide	Reaction with GSH/Cys	intracellular	GSH/Cys conc. dependent
H <sub>2</sub> S donor 8ℓ	<i>N</i> -Acetyl-DL-penicillamine	Reaction with GSH/Cys	intracellular	GSH/Cys conc. dependent
H <sub>2</sub> S donor 8o	<i>N</i> -Acetyl-DL-penicillamine	Reaction with GSH/Cys	intracellular	GSH/Cys conc. dependent