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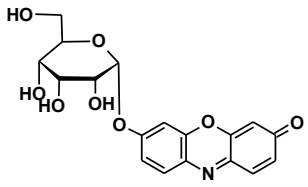
Product Information Sheet

Ordering Information

Product Number:	14022
Product Name:	Resorufin alpha-D-glucopyranoside
Unit Size:	5 mg
Storage Conditions:	<-15 °C and kept from light and moisture
Expiration Date:	12 months upon receiving

Chemical, Physical and Spectral Properties

Molecular Weight:	375.33
Chemical Structure:	
Appearance:	Yellow solid
Soluble in:	DMSO
Excitation Wavelength:	571 nm
Emission Wavelength:	585 nm

Application Notes

Resorufin alpha-D-glucopyranoside is a sensitive fluorogenic substrate that generates a red fluorescent product (resorufin) upon interaction with alpha-glucosidase. It is used for measuring alpha-glucosidase activities and high throughput screening of alpha-glucosidase inhibitors. Alpha-glucosidase is a glycoside hydrolase enzyme that hydrolyses the terminal alpha-glucolactosyl moieties from glycolipids and glycoproteins. Mutations in alpha-glucosidase cause accumulation of glycogen in lysosomes, resulting in Pompe disease, a lysosomal storage disorder. Small molecule chaperones that bind to enzyme proteins and correct the misfolding and mistrafficking of mutant proteins have emerged as a new therapeutic approach for the lysosomal storage disorders. In addition, alpha-glucosidase is a therapeutic target for type II diabetes, and alpha-glucosidase inhibitors have been used in the clinic as alternative treatments for this disease. Resorufin alpha-D-glucopyranoside is a new fluorogenic substrate for the alpha-glucosidase enzyme assay, resorufin alpha-d-glucopyranoside. The enzyme reaction product of this new substrate emits at a peak of 590 nm, reducing the interference from fluorescent compounds seen with the existing fluorogenic substrate, 4-methylumbelliferyl-alpha-D-glucopyranoside. Also, the enzyme kinetic assay can be carried out continuously without the addition of stop solution due to the lower pK(a) of the product of this substrate. Therefore, this new fluorogenic substrate is a useful tool for the alpha-glucosidase enzyme assay and will facilitate compound screening for the development of new therapies for Pompe disease.