LIFE SCIENCE

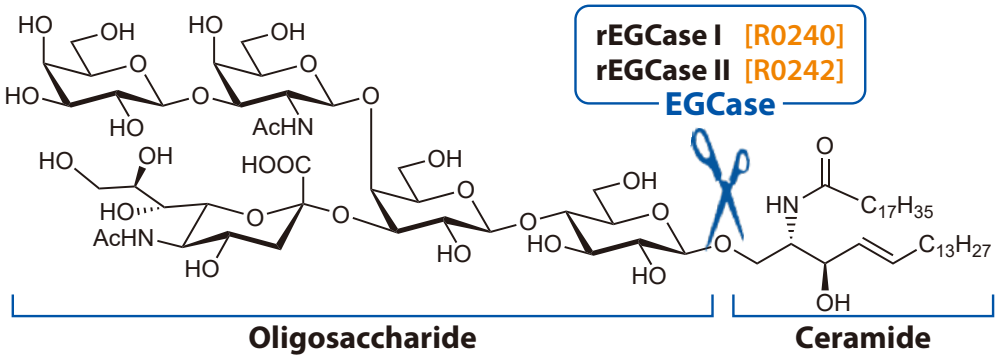
Endoglycoceramidase

Hydrolytic Enzymes Specific to Glycosphingolipids

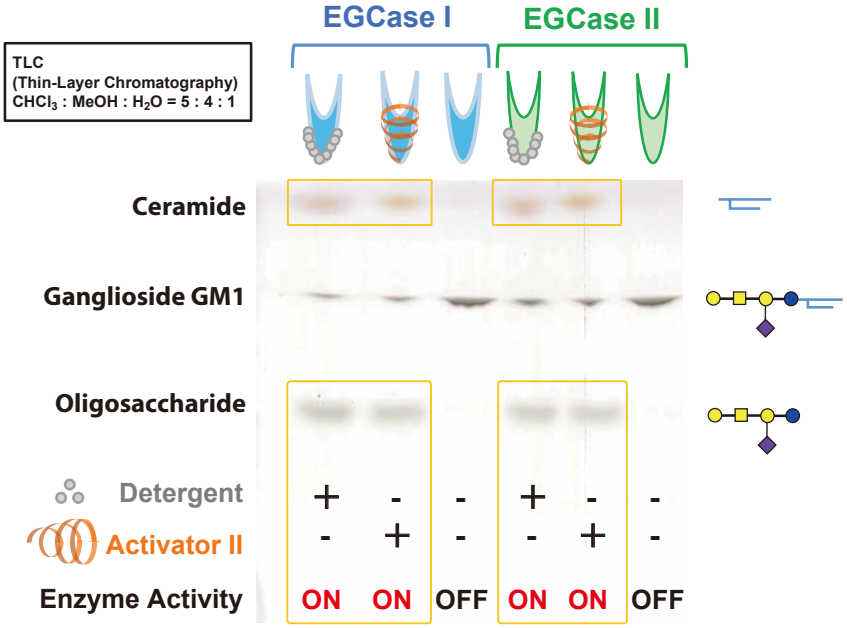
rEGCase I	300 mU/vial [R0240]
rEGCase II	100 mU/vial [R0242]
rEGCase I assisted by Activator II	300 mU/vial [R0241]
rEGCase II assisted by Activator II	100 mU/vial [R0243]

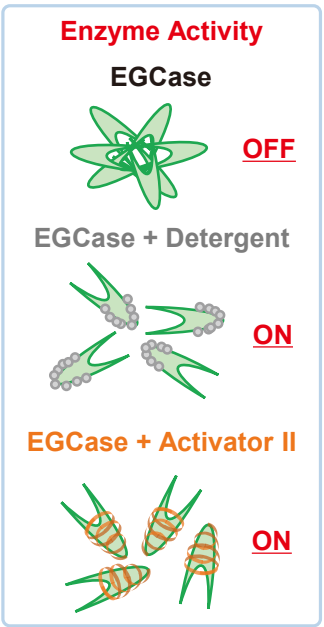
Endoglycoceramidase (EGCase) is a glycolipid-specific hydrolase that cleaves the glycosidic linkage between oligosaccharide and ceramide of various glycosphingolipids (GSLs).

Activity of EGCase (Ex.: Ganglioside GM1)



Hydrolysis reaction of GM1 using EGCases





Recombinant EGCase (rEGCase) is activated under a detergent-dependent condition. On the other hand, Activator II is capable of inducing activity of EGCases without any detergent reagents. By the use of Activator II, GSLs on cell surfaces of living cells could be hydrolyzed without cell disruption caused by detergent.

The products were commercialized under license from Kyushu University.

Substrate specificities of rEGCase I and rEGCase II

	rEGCase I				rEGCase II			
Reaction time (h)	1		16		1		16	
Enzyme (mU)	0.4	4	0.4	4	0.4	4	0.4	4
Substrates	Hydrolysis (%)							
Ganglio-series								
GM1	89	100	100	100	82	100	93	100
Asialo GM1	63	100	100	100	82	100	100	100
Fucosyl GM1	54	92	92	96	20	38	27	52
GM3	100	100	100	100	100	100	100	100
GD1	79	97	90	100	78	90	86	91
GT1	35	78	83	86	62	63	78	81
Globo-series								
Gb4	4	29	26	60	4	16	6	20
Lacto-series								
LacCer	50	64	81	100	63	81	83	100
Cerebrosides								
GlcCer	0	5	5	27	0	0	0	0
GalCer	0	0	0	0	0	0	0	0

Each substrate (4 nmol) was incubated with EGCase and 0.1% Triton™ X-100 at 37°C.

These data were provided by Prof. Makoto Ito and Dr. Yohei Ishibashi, Kyushu University.

References

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