



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# 5-hmC Glucosyltransferase

Cat. No. E2026 & E2027

Storage: -20 °C



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

## Product Information

### Highlights:

- Specific modification of 5-hydroxymethylcytosine with glucose moiety

### Applications:

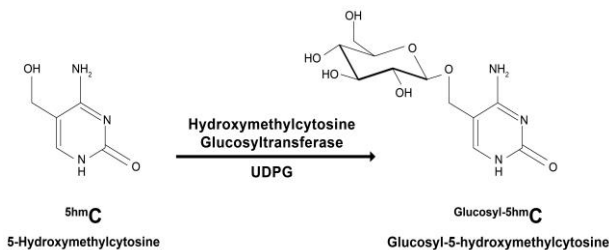
5-hmC Glucosyltransferase can be used for:

- Used in method for sequence and locus specific detection of 5-hydroxymethylcytosine within DNA
- Global quantification of 5-hydroxymethylcytosine (Ref.1)

### Description:

#### Overview

**5-hmC Glucosyltransferase** from Zymo Research is a highly active enzyme that specifically tags 5-hydroxymethylcytosine in DNA with a glucose moiety yielding glucosyl-5-hydroxymethylcytosine (Figure 1).



**Figure 1:** 5-hmC Glucosyltransferase transfers a glucose moiety from uridine diphosphoglucose (UDPG) onto preexisting 5-hydroxymethylcytosines within DNA.

Glucosylation of 5-hydroxymethylcytosine by 5hmC Glucosyltransferase can be used for sequence specific (see Cat. Nos. D5410 & D5411), locus specific, as well as global quantification of 5-hydroxymethylcytosine.

### Product Contents:

	Cat. No. E2026	Cat. No. E2027	Storage
<b>5-hmC Glucosyltransferase</b>	100 units	200 units	-20 °C
<b>10X 5-hmC GT Reaction Buffer</b>	1 ml	1 ml	-20 °C
<b>10X UDPG (Uridine Diphosphoglucose), [1mM]</b>	600 µl	600 µl	-20 °C

Storage Condition: 5-hmC Glucosyltransferase is guaranteed for 12 months at -20°C. Long term storage at -80°C is recommended. Avoid multiple freeze thawing.

Enzyme Concentration: 2 units/µl

Unit Definition: Amount of enzyme needed to “protect” 1µg of 5hmC DNA Standard [D5405-3] from Glal digestion via glucosylation in a reaction incubate at 30°C for 1 hour.

### Protocol

#### 5hmC Glucosylation Reaction

Note: Can be used for global quantification of 5hmC with use of Uridine Diphosphate Glucose [Glucose-<sup>14</sup>C(U)] PerkinElmer (Ref. 1)

- Standard reaction setup shown below. Incubate at 30°C for ≥2 hours.

DNA [10-100ng/µl]	10 µl
10X 5hmC GT Reaction Buffer	5 µl
10X UDPG [1mM]	5 µl
5hmC GT Enzyme (2 units/µl)	2 µl
ddH <sub>2</sub> O	28 µl
<b>Total</b>	<b>50 µl</b>

### Notes:

- To ensure glucosylation reaction is carried to completion it is recommended:
  - Excess enzyme unit:DNA ratio is used. For example, if glucosylating 1 µg of DNA use 4 units of 5hmC Glucosyltransferase.
  - Extended incubation at 30°C for ≥2 hours.

### References:

- Szwagierczak A. *et al*, “Sensitive enzymatic quantification of 5-hydroxymethylcytosine in genomic DNA” *Nucleic Acids Res.* (2010)

### Also Available:

Product Name	Size	Cat. No.
<b>5-HYDROXYMETHYLCYTOSINE</b>		
Quest 5-hmC Detection Kit™	25 Preps. 50 Preps.	D5410 D5411
Quest 5-hmC Detection Kit™ - Lite	25 Preps. 50 Preps.	D5415 D5416
Human Matched DNA Set	2 x 5 µg	D5018
Mouse 5hmC & 5mC DNA Set	4 x 5 µg	D5019
5-hmC Glucosyltransferase	100 units 200 units	E2026 E2027
5-Hydroxymethyl dCTP [100mM]	10 µmol	D1045
5-Methyl dCTP [10mM]	1 µmol	D1035
5-Methylcytosine & 5-Hydroxymethylcytosine DNA Standard Set	1 set	D5405
<b>BISULFITE TREATMENT OF DNA</b>		
EZ DNA Methylation-Direct™ Kit	50 rxns.	D5020
	200 rxns.	D5021
	2 x 96 rxns.	D5022
	2 x 96 rxns.	D5023
<b>METHYLATED/NON-METHYLATED DNA STANDARDS</b>		
Universal Methylated DNA Standard	1 set	D5010
Universal Methylated Human DNA Standard	1 set	D5011
Universal Methylated Mouse DNA Standard	1 set	D5012
Human Methylated and Non-methylated DNA Set	1 set	D5014
<b>AMPLIFICATION OF BISULFITE CONVERTED DNA</b>		
Zymo Taq™ PreMix (2X concentrated)	50 rxns.	E2003
	200 rxns.	E2004
<b>ANTIBODIES &amp; IMMUNOPRECIPITATION</b>		
Methylated-DNA IP Kit	10 preps.	D5101
Anti-5-Methylcytosine Monoclonal Antibody (clone 10G4)	50 µg	A3001-50
	200 µg	A3001-200
<b>DNA FRAGMENTATION</b>		
DNA Degradase™	500 U	E2016
	2000 U	E2017
DNA Degradase Plus™	250 U	E2020
	1000 U	E2021
DNA Shearase™	50 U	E2018-50
	200 U	E2018-200
	50 U & DCC™	E2019-50
	200 U & DCC™	E2019-200
<b>NUCLEOSOME MAPPING</b>		
EZ Nucleosomal DNA Prep Kit	20 preps	D5220

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This product is for research use only and should only be used by trained professionals. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility.

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ZYMO RESEARCH CORP.

Phone: (949) 679-1190 ▪ Toll Free: (888) 882-9682 ▪ Fax: (949) 266-9452 ▪ info@zymoresearch.com ▪ www.zymoresearch.com