

# RNA interference

Hideshi Inoue

## 1. RNAi

“ ”  
microinjection  
double strand RNA (dsRNA) Caenorhabditis elegans 가 dsRNA ( )<sup>6</sup>, dsRNA RNAi ( )<sup>7</sup>.  
mRNA mRNA dsRNA line germ  
dsRNA mRNA (RNA interference, RNAi) 1998 2 Nature<sup>1</sup>)  
, RNAi  
. C. elegans 1998 12 2), 3. 가 ?  
high throughput . C. elegans X RNAi 가 ,  
3 가 , RNAi 1 가 2000 11 ,  
3), 4). RNAi  
RNAi knock out transposon  
transcriptional gene silencing, quelling RNAi post -  
RNAi가 .  
dsRNA RNA in vitro  
RNAi .

RNAi가 가

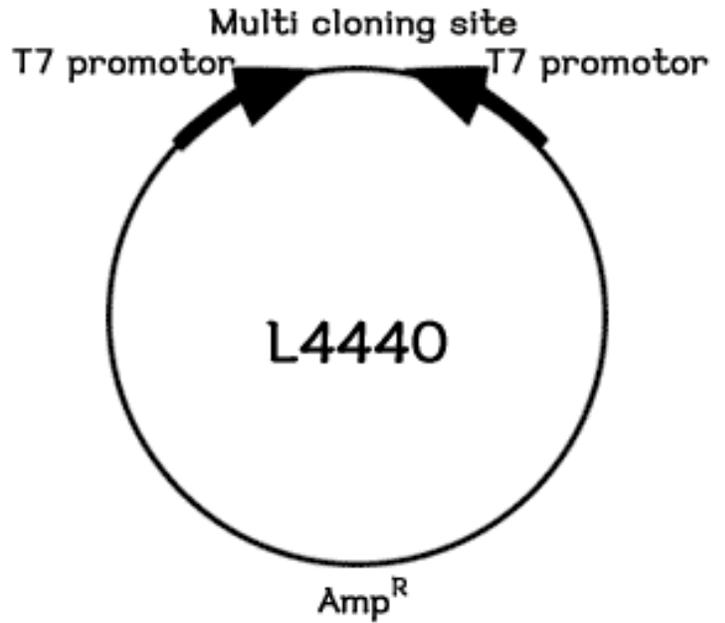
, dsRNA

. Elbashir<sup>5)</sup>

21

dsRNA (siRNA)  
RNAi가

RNAi



## 2. C. elegans RNAi

C. elegans dsRNA

가 가

1) Micro injection

2)

3)

microinjection

RNAi

dsRNA가

dsRNA

dsRNA

dsRNA

1 dsRNA

vector L4440(

7, 8)

## 4. dsRNA

RNAi

dsRNA

mRNA

promoter

가

intron

non translation region

, exon

가

200~300

RNAi

cross

polycistronic

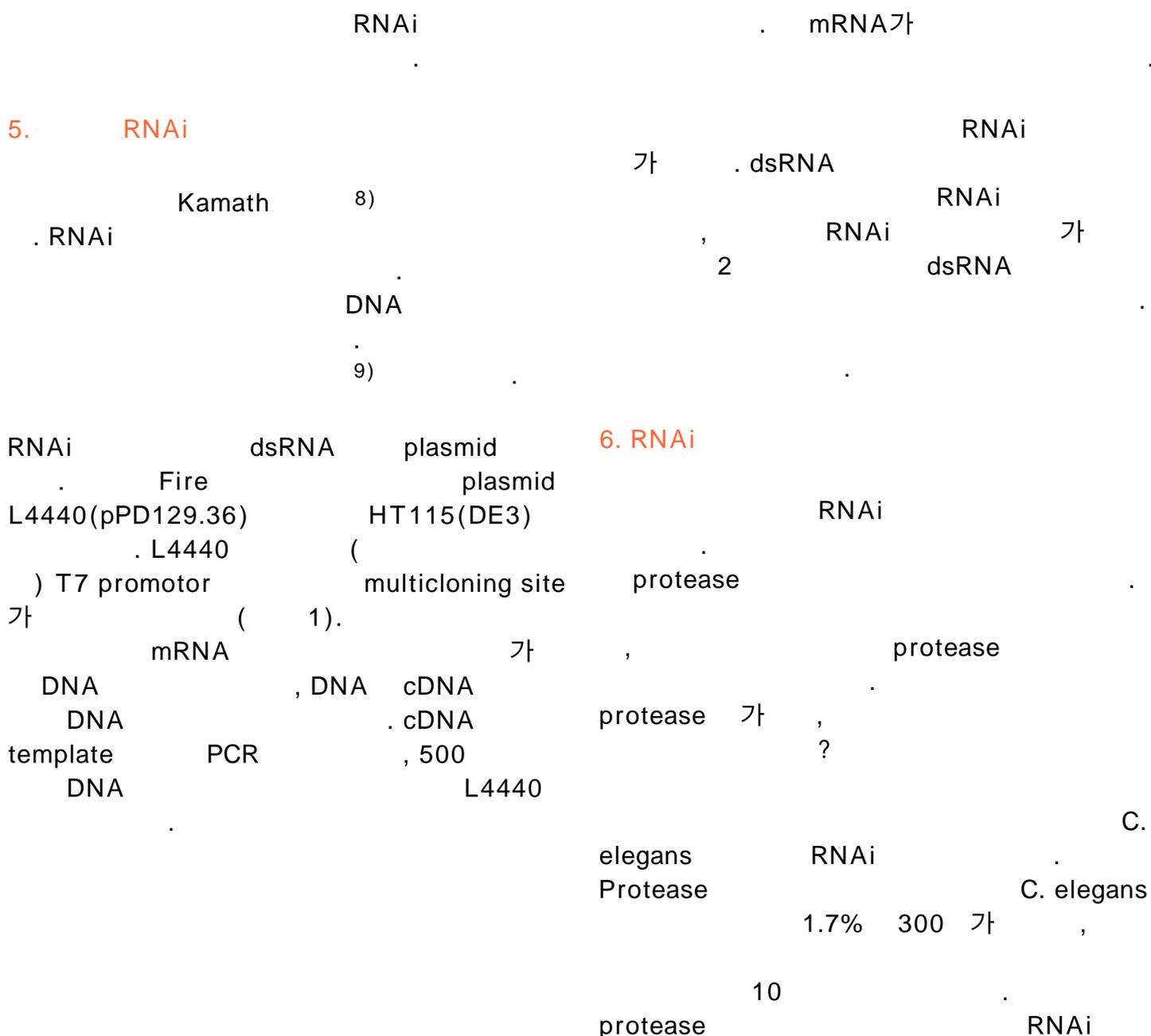
1 2 3

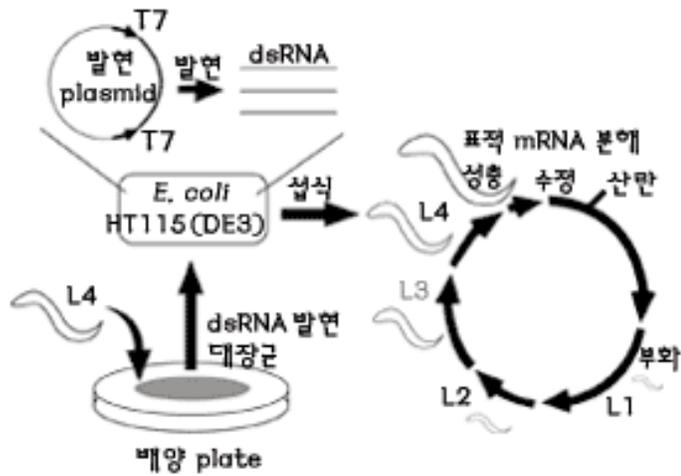
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2 RNAi  
L4 dsDNA

cDNA BLAST EST database  
clone plasmid  
DH5  
DNA sequencing  
HT115(DE3) HT115(DE3)  
double strand RNA RNase III가  
IPTG T7 RNA polymerase가  
(DE3) plasmid 가 HT115  
ampicillin LB plate  
clone ampicillin 가  
LB 8~18 , IPTG  
ampicillin nematode growth  
medium(NGM) plate  
dsRNA plate  
RNAi가 Plate  
plate RNAi  
plate RNAi  
plate L4  
dsRNA (

2). 20

EST가  
protease 10 protease  
가 100%  
proteasome subunit  
RNAi subunit  
L4 dsRNA subunit  
dsRNA  
subunit  
L2 subunit가  
L1 dsRNA  
L2 RNAi 가  
proteasome subunit Rpn10  
Rpn12 RNAi  
dsRNA  
100%  
subunit  
가 RNAi L4 dsRNA  
(F1)  
(F2)  
100% 가 L4  
dsRNA F1  
가

7. RNAi

C. elegans RNAi

L1

dsRNA

dsRNA  
RNAi 가  
,  
dsRNA가

1 2 3 ( )

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Wormbase (<http://www.wormbase.org/>)

RNAi experiment  
C47B2.4  
RNAi

sequence(any)

RNAi  
. RNAi

가

## 8. RNAi

RNAi

in vitro

RNAi

21

22

RNA(si  
10).

RNA)가

RNAi

가

HeLa

COS - 7

21

siRNA  
5).

RNAi가  
long strand

dsRNA  
가

RNAi

dsRNA

가

siRNA가

RNAi

RNAi

RNAi

【           】

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1 2 3 ( )

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