



(72)

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(74)

:

(54)

-

, - , -

- - (membrane - spanning proteins) .

( H)  
 CO<sub>2</sub> , 가 CO<sub>2</sub> , CoA ,

myces avidinii) ( 63 kDa ) 가 ( Strepto  
 (Ka 10<sup>15</sup> mol<sup>-1</sup>) 가 .

(transmembrane proteins)

-  
.

(endocytosis)

1 ( C , A , B ) ;

2 ,

3 .

DNA DNA (coding) DNA AVR - 1 - AVR - 5, AVR - X -  
AVR - V, Stv1 Stv2가 .

) , ( , DNA 가 (ligase) ) , cDNA ( , .

/ (naked) DNA / , / , /

, , (Moloney) cDNA ,  
, (sinibis) 가 .

, - (scavenger) A, LOX - 1 ,  
(linker) . 가 ,

DNA (Green). (1975) Adv. Prot. Chem.29: 85~133) A(ScR) (Kodama) . (1990) Nature343: 531~535) ScR  
 가 , 2 , 1~53  
 55~79 , 81~111 (spacer domain) , 1  
 13~272 - 273~400 가 cDNA(  
 (Gope) . (1987) Nucleic Acid Res.15: 3595~3606)

II , ScR cDNA (internal Rous Sarcoma Virus Promoter) HindI  
 ScR cDNA (PLScRNL)  
 cDNA pLS1ARNL HindIII cDNA  
 ScR cDNA Sty 1  
 cDNA 1 1~989 Mo - MuSV  
 1071~2270 , 2376~3101  
 I cDNA 3107~3376 RSV  
 3727~4522 R , 4540~5177 Mo - MuLV  
 2 3 , 2 RSV ScR cDNA  
 HindIII pLScRNL HindIII  
 3 ScR - - RSV cDNA pLRNLHindIII

가 , mRNA 55 kDa , 110 kDa , 110 kDa  
 S - S 55 kDa , 45 kDa , 110 kDa  
 ( , ) , 가 , 220 kDa ,  
 110 kDa 55 kDa , 220 kDa ,  
 가 , NHS - ,

(atomic force) , FITC -  
 LacZ (probe)  
 .LacZ -  
 149 ± 19 pN ( ± ) ,  
 , 160 pN ( (Florin) . (1994), Science 264 :  
 415~417).

FACS , -

BDIX (high resolution) MRI( 2.5 mm ) , BT4C -

1.3 x 10<sup>6</sup> cfu/ml 2.5 mm , LacZ 1.5 mm cDNA 10 3 , 2 x 10<sup>6</sup> cfu/ml (pseudotype)

2 , 3 , 4% PFA -

2 ,

(57)

1.

-

2.

1 , 가

3.

1 2 ,

4.

A

5.

1 3 , 2

6.

7.

6

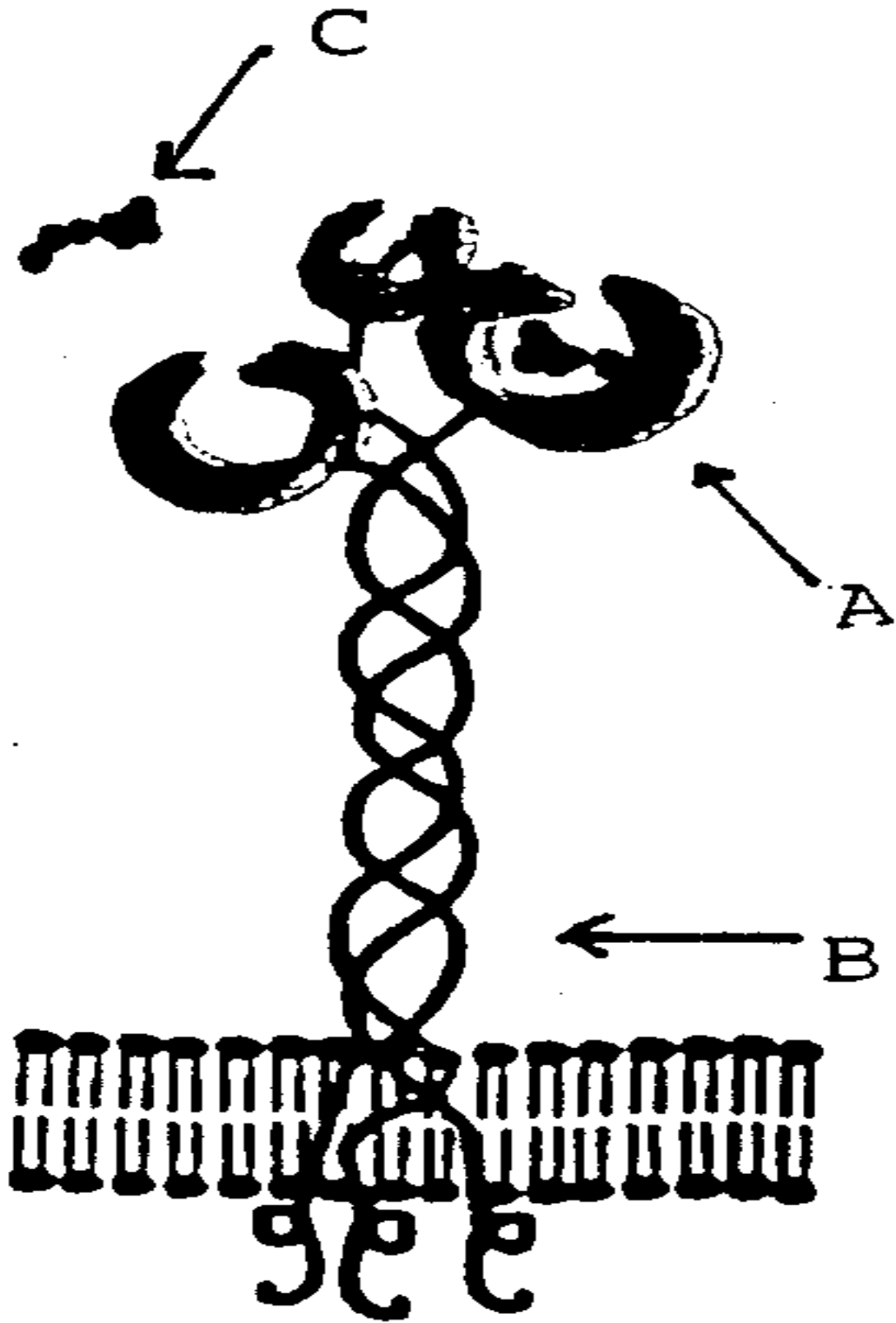
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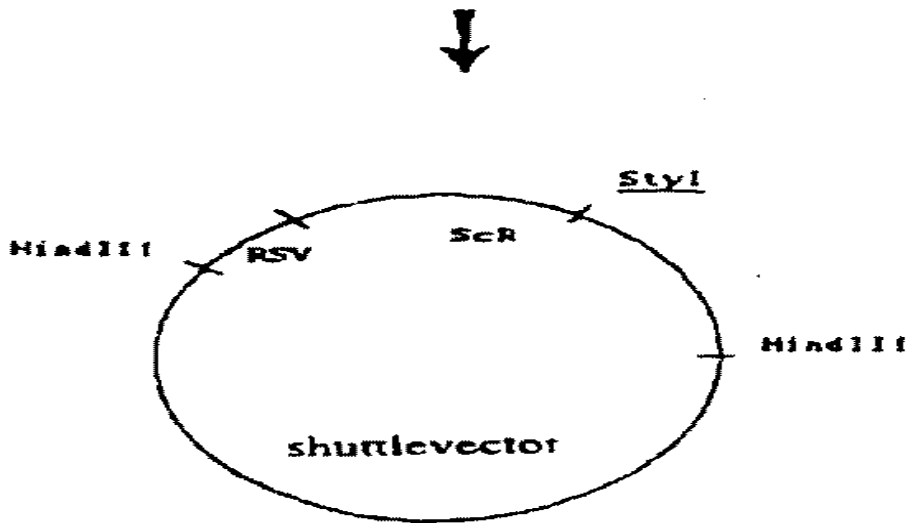
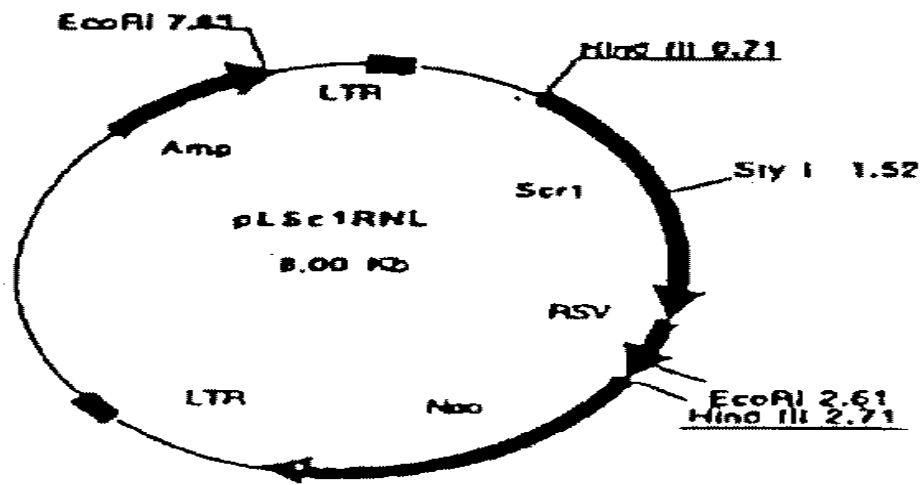
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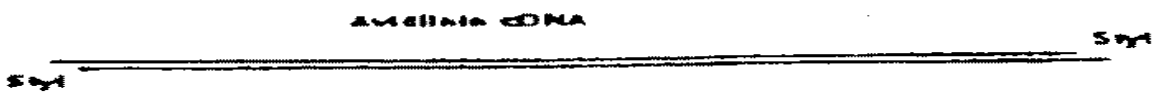
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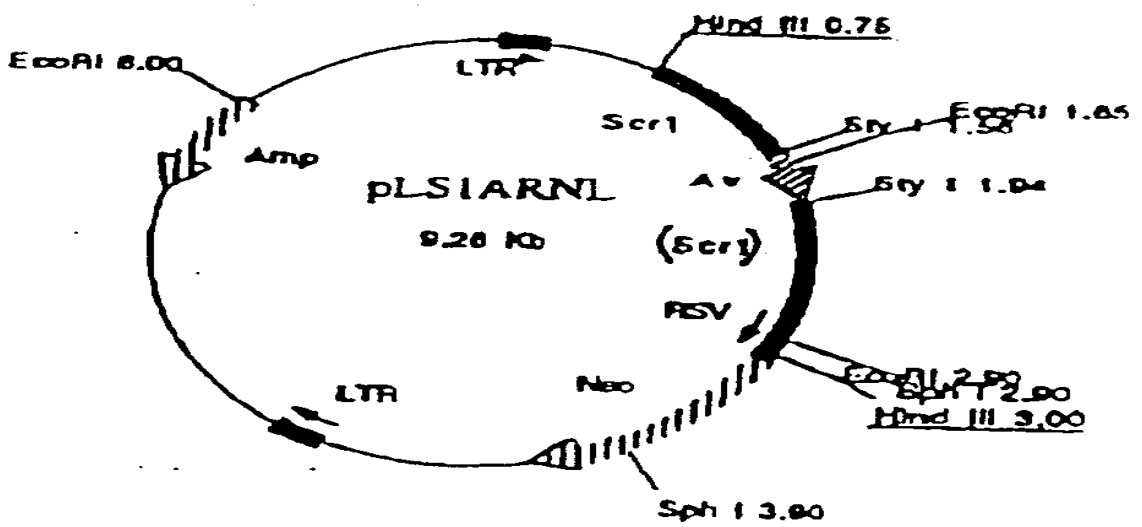
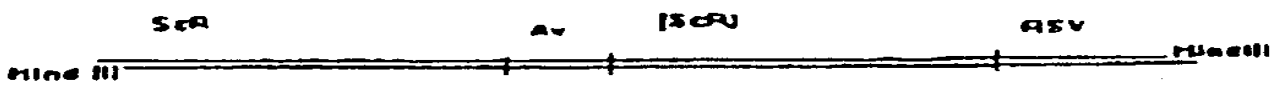
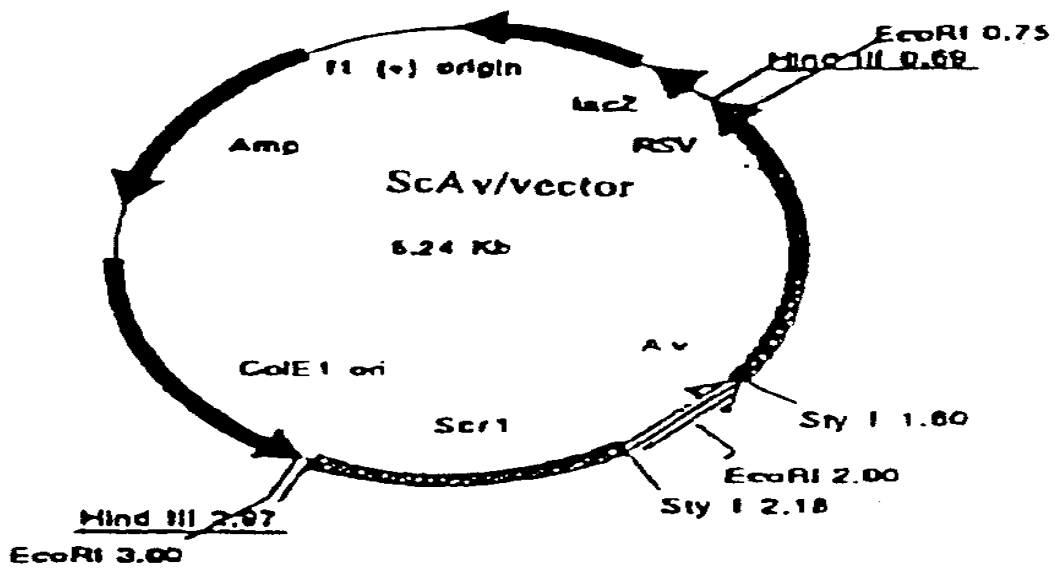
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Pro Pro His Pro Lys Asn Gly Pro Thr Leu Gln Glu Arg Met Lys Ser
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Val Pro Ile Ile Gly Ile Val Ala Ala Gln Leu Leu Lys Trp Glu Thr
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Lys Asn Cys Thr Val Gly Ser Val Asn Ala Asp Ile Ser Pro Ser Pro
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Glu Gly Lys Gly Asn Gly Ser Glu Asp Glu Met Arg Phe Arg Glu Ala
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