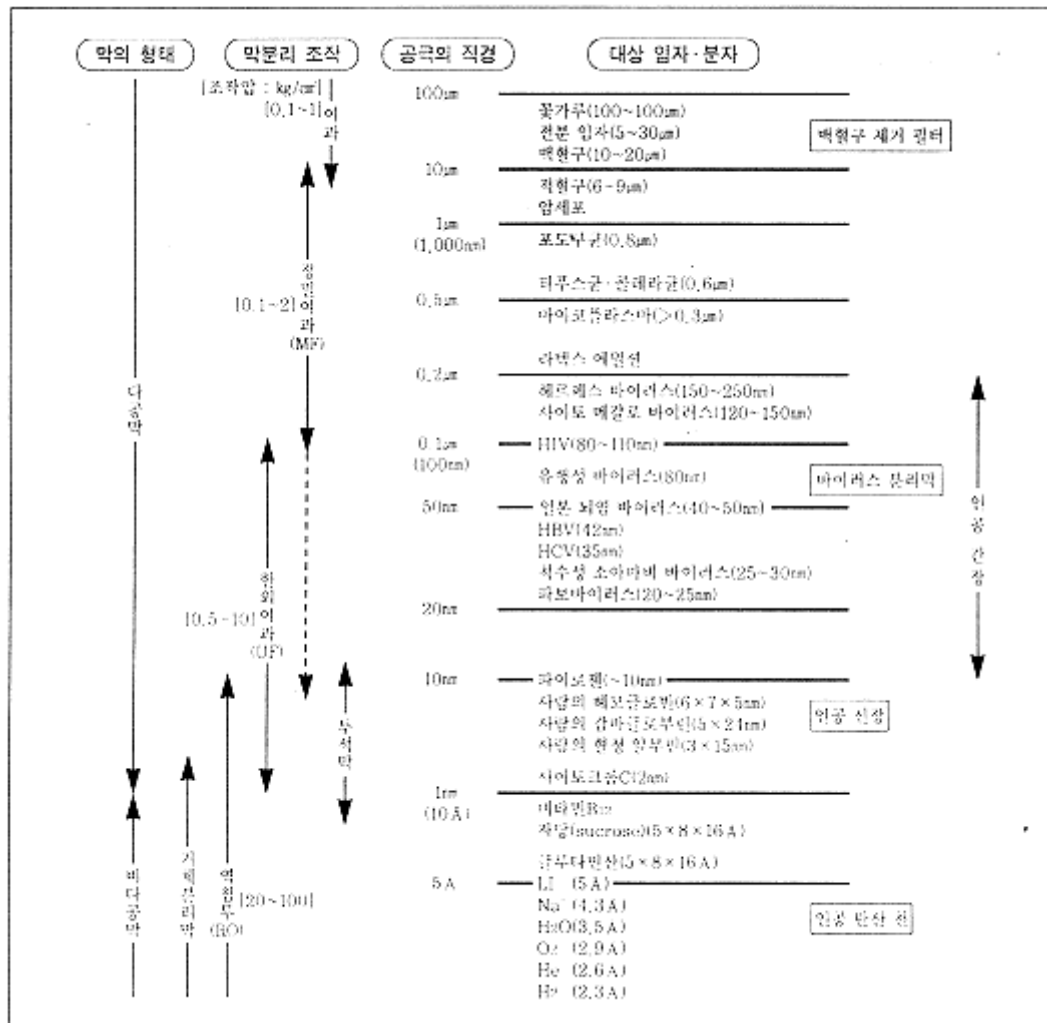


1.

< 1 >

5



< 1 >

2.

1%

,

.

(7~20 μ m)

.

가

.

0.8~2.8 μ m

(

)

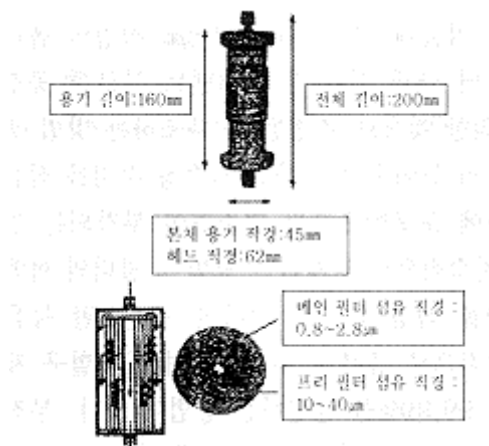
가

99.99%

< 2>

(μ m)

.



< 2>

()

.

「

」

(

40%).

「 」 ,

(LCAP)

2001

< 2>.

3.

「 」

.

(1~10nm)

,

(20~200nm)

.

,

3

-

(void)

가

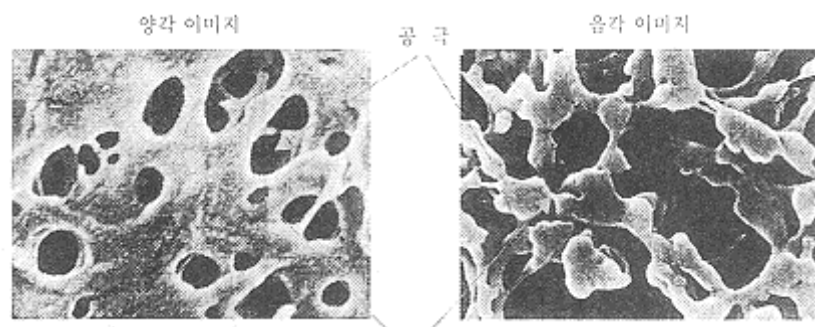
<

3>.

(分割性能) 가

.

가 가 .



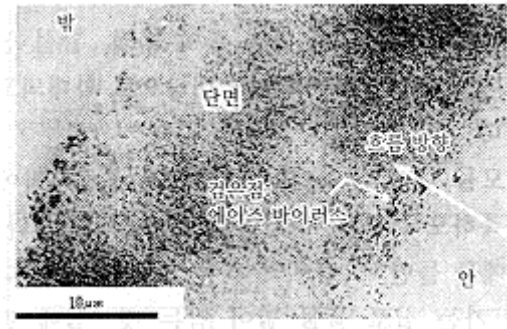
< 3> -

(가 , pH)

, , ,

. < 4>

.



< 4>

,

< 5> U

2

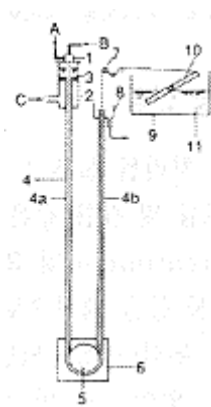
- -

3

.

.

가 .

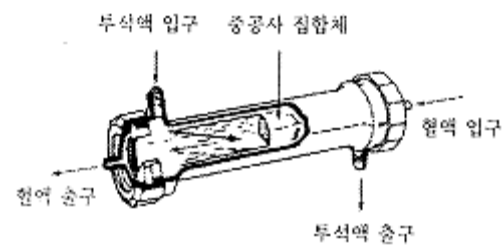


< 5> U (03-147049)

4.

4.1

·
·
() ,
가 .
·
가 . < 6> ,
200 μ m, 100 μ m 가 0.7~2.1m²
· 25cm, 1.5m²
, 가 . 1 ,
15 .
, 200M $\varnothing$ / , 3 , 4~5 / .



< 6>

4.2

, ,
, , (creatinine)

β -2(β -2 microglobulin,

11,700)

< 1>

가

< 7>

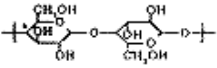
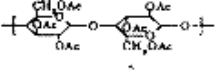
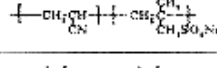
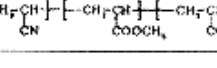
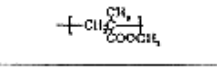
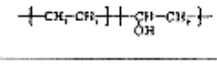
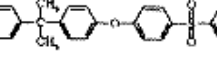
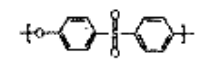
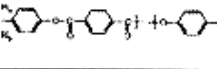
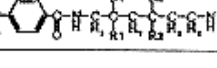
HP

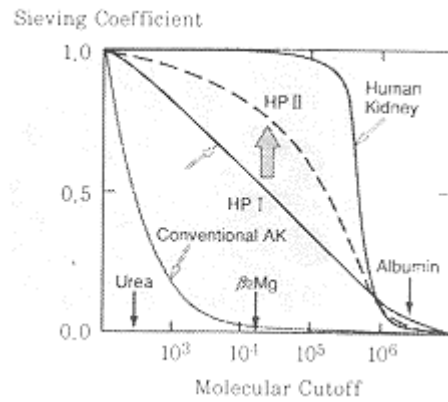
(myoglobin, 17,000),

(prolactin,

23,000)

< 1>

막 소재	메이커	분자구조	방사방법	비고
구리 암모니아법 재생 셀룰로스	Membrana (독) 아세히가세이 테루모 (Terumo)		건습식 습식	세계 최초의 치료용 투석막, 생체 적합성을 목적으로, 에틸아미드에틸기, 폴리에틸렌 글리콜 그라프트, 비타민 E코팅 등
말초산법 재생 셀룰로스	Althin(미) 데이진		용융	세계 최초의 중공사형 투석막
초산 셀룰로스	Althin(미) 데이진 동양방		용융 건습식	화산으로 β -2 microglobulin을 제거, 디아세테이트(CDA)와 트리아세테이트(CTA)가 있다.
폴리아크릴로니트릴	Hospal(불)		습식	합성 고분자 투석막의 제1호
	아세히가세이		습식	여과 성능이 우수한 비대칭 투석막
폴리메틸아크- 크릴레이트	도레이		건습식	김마신 명관 제 1호 β -2 microglobulin을 흡착
에틸렌비닐알콜 공중합체	구라레		습식	항혈전성이 우수한 투석막
폴리설펜	Fresenius (독) 아세히가세이 테루모 (Terumo)		건습식	β -2 microglobulin 제거성능 이 우수한 비대칭막 폴리비닐피롤리돈(PVP)을 함유
폴리에테르설펜	Gambro (스웨덴) Membrana		건습식	상기외 같음. PVP를 함유
폴리에스테르계 폴리미합금 (폴리아릴레이트 및 폴리에테르 설펜)	니게소		건습식	엔도독소를 흡착함
방향족 폴리아미드	Gambro		습식	비대칭 High Flux막 PVP를 함유



< 7>

， ，

가

.

OH ， < 1> OH

， OH 가 .

(cytokines) ，

.

가

.

， ， 가

， (fin) ， (spacer)

.

4.3

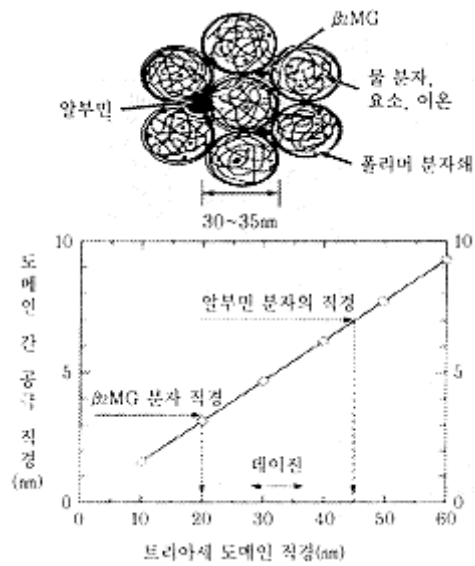
(Teijin) CTA

.

(spinodal) 가

< 8>

27~37nm



< 8> CTA

가

가

5

가

< 9>

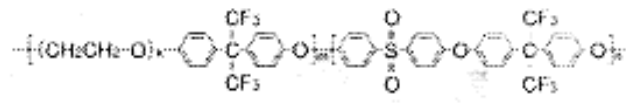
가

% CTA

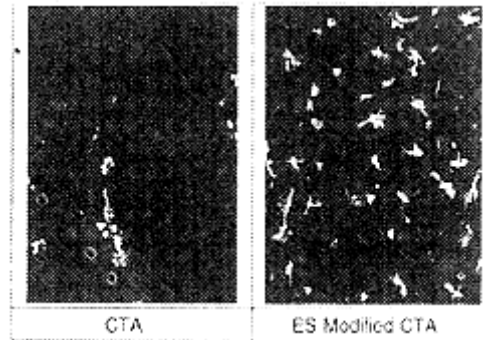
CTA

가

< 10>.



< 9>



< 10> (180)

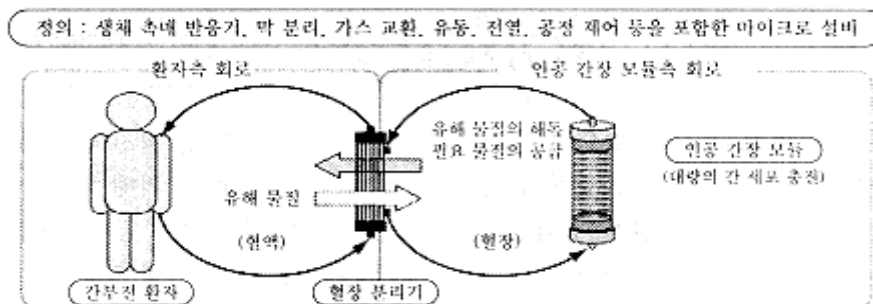
5.

5.1 (hybrid)

. 500

가 (bioreactor) .

< 11>.



< 11>

5.2

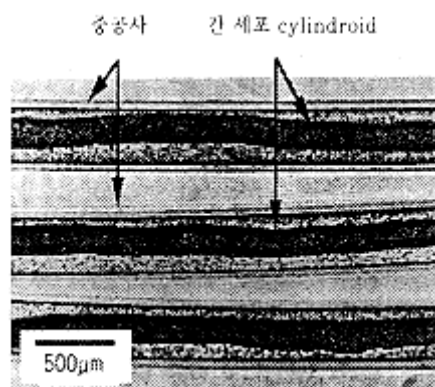
, 가 가 .

가 .

CTA, PP, 가

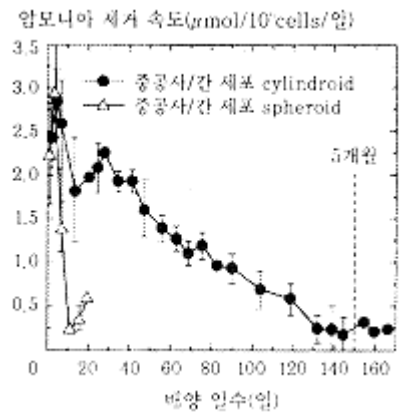
5.3

(1) / (organoid)



< 12> (cylindroid)

$$\left(\begin{array}{c} 2 \end{array} \right)$$



< 13> / (cylindroid)

CTA

< 12>. 2

가 < 13>

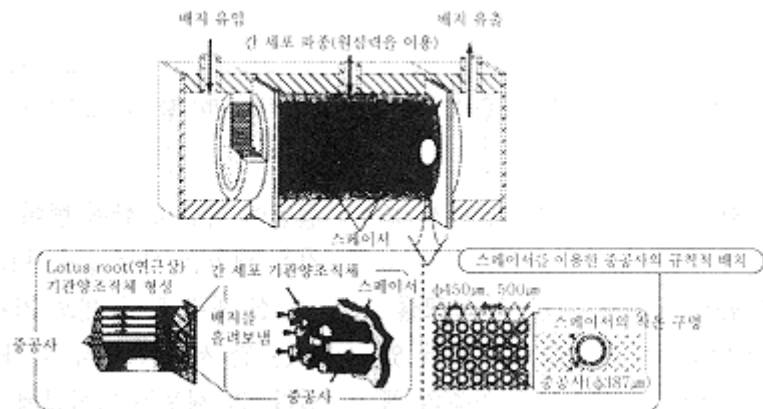
(2)

1~2 (柵狀)

< 14>. 500g

1

가 가



< 14>

6

6.1

가

,

가 , (溫感)

,

가

.

가

,

.

가

.

6.2

()

가 가 가

.

200 μ m 3

,

가

(0.5 μ m)

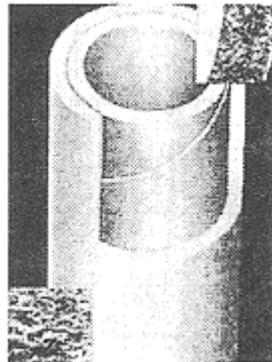
< 15a>.

가

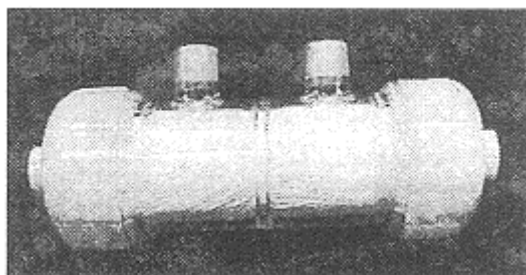
215mm 가 < 15b>.

< 16> 가

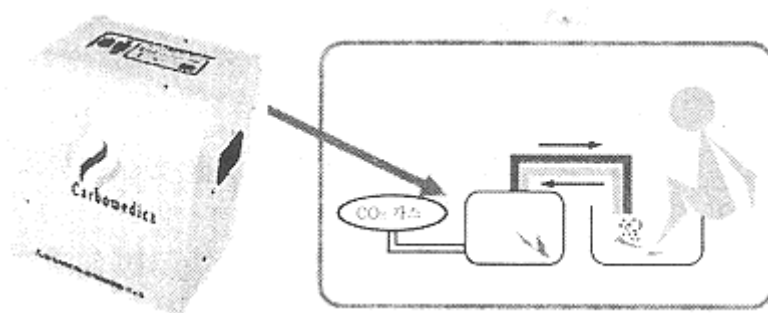
1000mg/l .



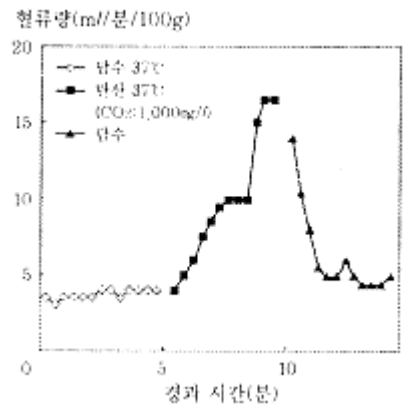
< 15a>



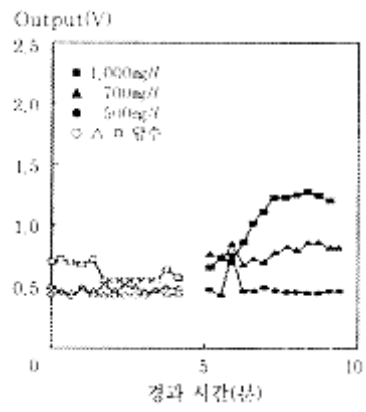
< 15b> 가



< 16>



< 17a>



< 17b> 가 CO₂

6.3

< 17 a · b>

80%

♣