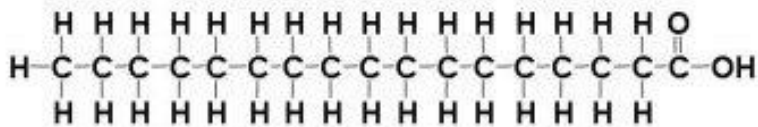
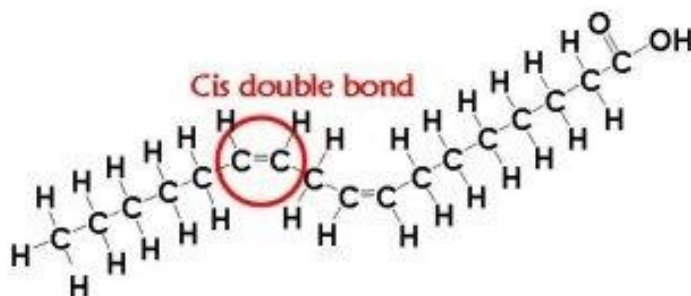


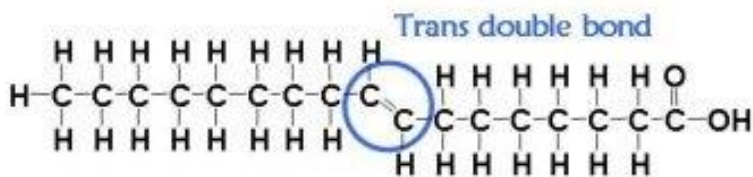
**SATURATED**  
Stearic acid  
(found in butter)



**UNSATURATED**  
Linoleic acid  
(found in vegetable oil)



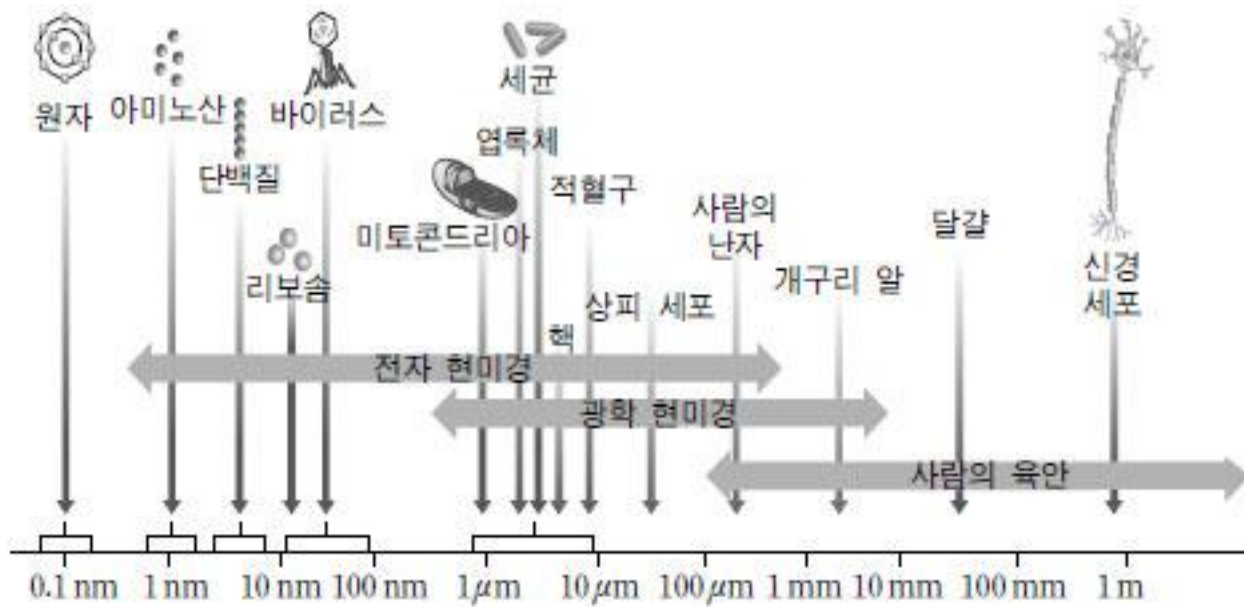
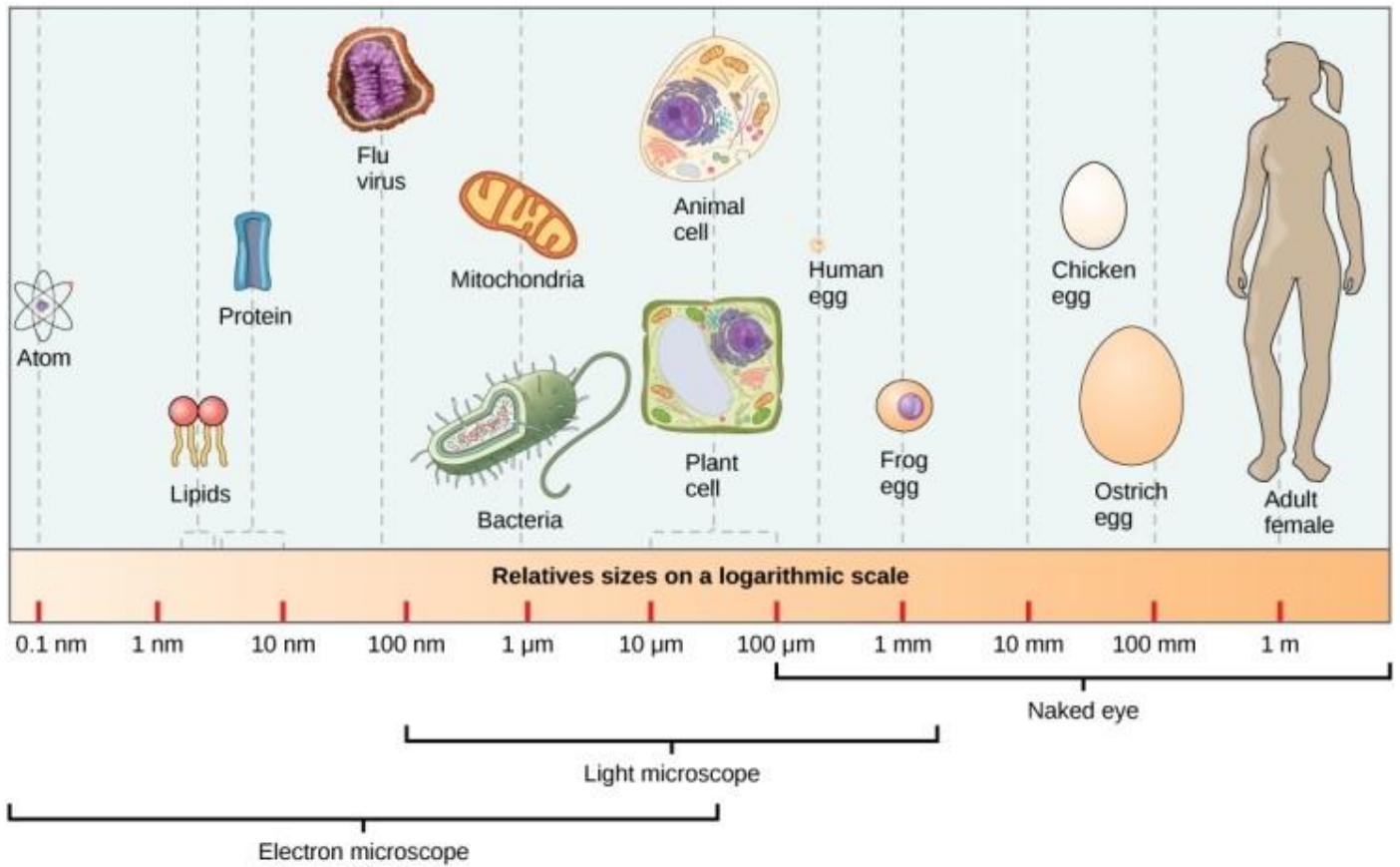
**TRANS**  
trans-Linoleic acid  
(found in some margarine)

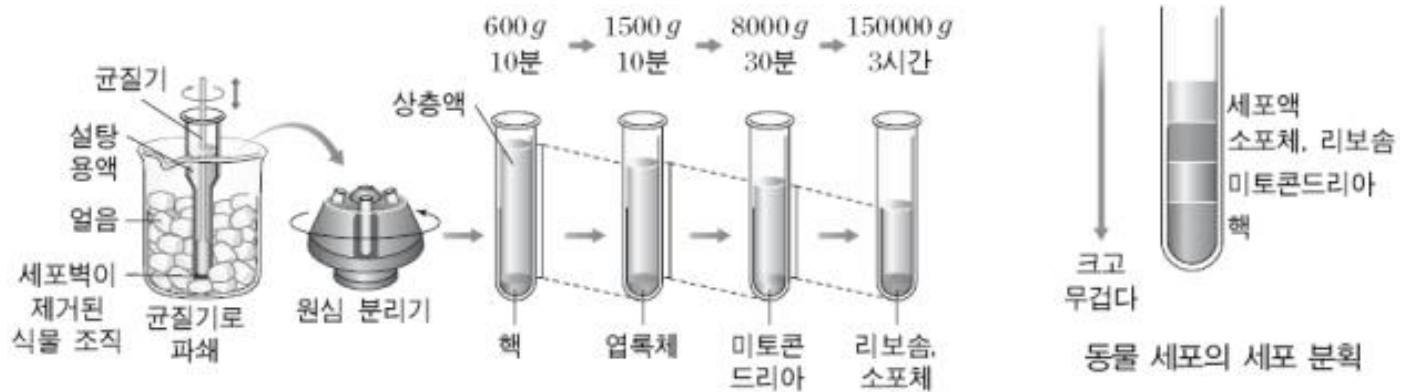
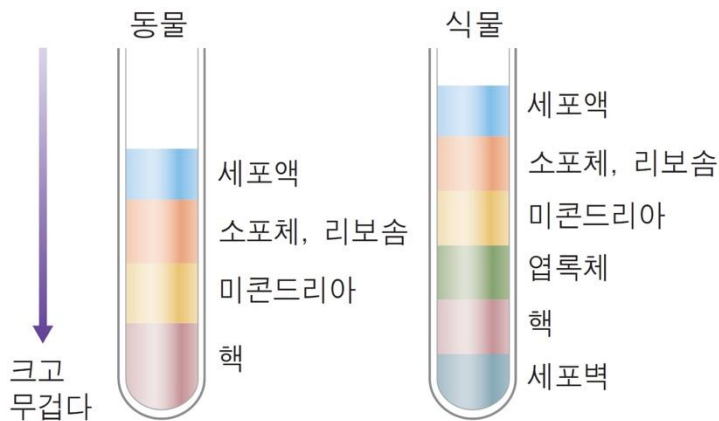


ω-characteristics	Methyl end	Carboxyl end	Saturation	Δ-characteristics
Stearic 18:0		COOH	Saturate	18:0
Oleic 18:1, ω-9		COOH	Monoene	18:1 Δ9
Linoleic 18:2, ω-6		COOH	Polyene	18:2 Δ9,12
α-Linolenic 18:3, ω-3		COOH	Polyene	18:3 Δ9,12,15
EPA 20:5, ω-3		COOH	Polyene	20:5 Δ5,8,11,14,17
DHA 22:6, ω-3		COOH	Polyene	22:6 Δ4,7,10,13,16,19

## ● 지방산 종류의 예

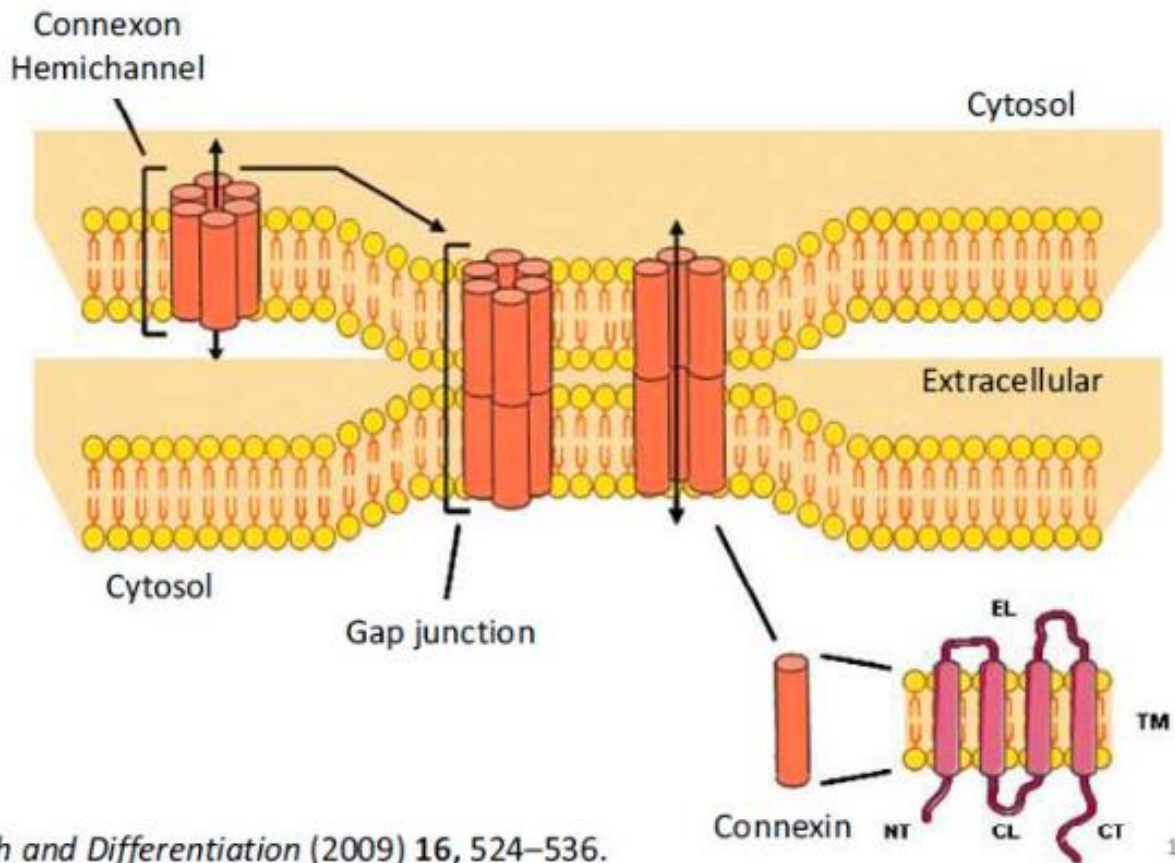
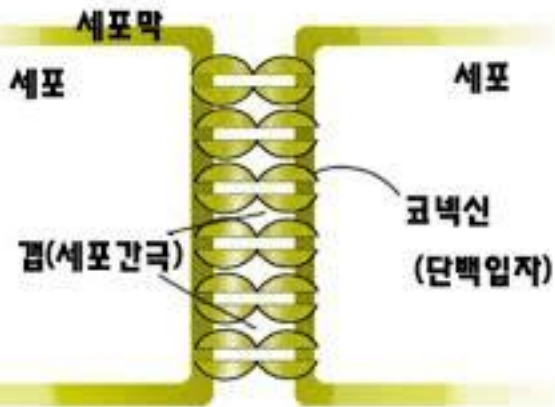
	일반명(general name)	탄소수: 이중결합수	체계적 이름(systemic name)
포화 지방산	부티르산(butyric acid)	4:0	n-부탄산(n-butanoic acid)
	미리스트산(myristic acid)	14:0	n-테트라데칸산(n-tetradecanoic acid)
	팔미트산(palmitic acid)	16:0	n-헥사데칸산(n-hexadecanoic acid)
	스테아르산(stearic acid)	18:0	n-옥타데칸산(octadecanoic acid)
불포화 지방산	올레산(oleic acid)	18:1	옥타데센산(9-octadecenoic acid)
	리놀레산(linoleic acid)	18:2	옥타데카다이엔산(9,12-octadecadienoic acid)
	리놀렌산(linolenic acid)	18:3	옥타데카트리엔산(9,12,15-octadecatrienoic acid)
	도코사헥사엔산 (docosahexaenoic acid)	22:6	도코사헥사엔산 (4,7,10,13,16,19-docosahexaenoic acid)





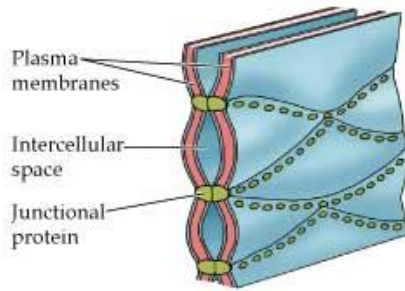
## 세포-세포 연결

- 다세포 생물은 장기간 동안 세포들끼리 연합하여 조직이나 기관을 구성하는데 이러한 연합은 두 세포가 가까워져 세포막이 닿는 부분이 특이적 구조를 갖는데 이것을 세포-세포 연결(cell-cell junction)이라고 한다.
- 동물세포에 잘 알려진 세포-세포 연결에는 부착연접, 밀착연접, 간극연접이 있다.
- 식물세포의 세포벽에서 일어나는 세포기질연락사(plasmodesmata)는 세포간 연결과 비슷한 기능을 한다.



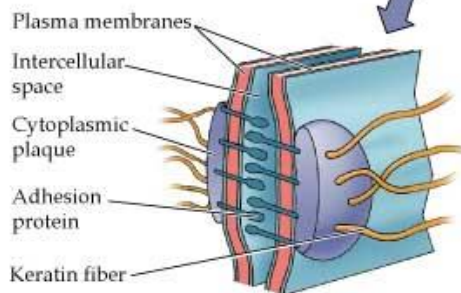
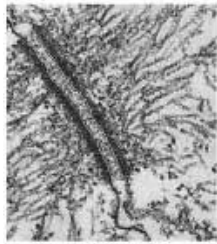
*Cell Death and Differentiation* (2009) 16, 524–536.

(a)



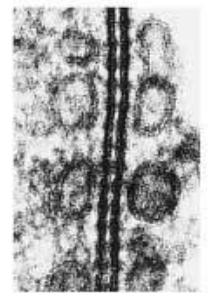
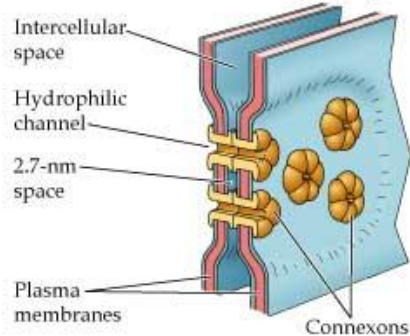
**Tight junctions** bar the movement of dissolved materials through the space between epithelial cells. There is no intercellular space where there is a tight junction. Long rows of tight-junction proteins form a complex meshwork, seen at the bottom of the freeze-etched image.

(b)

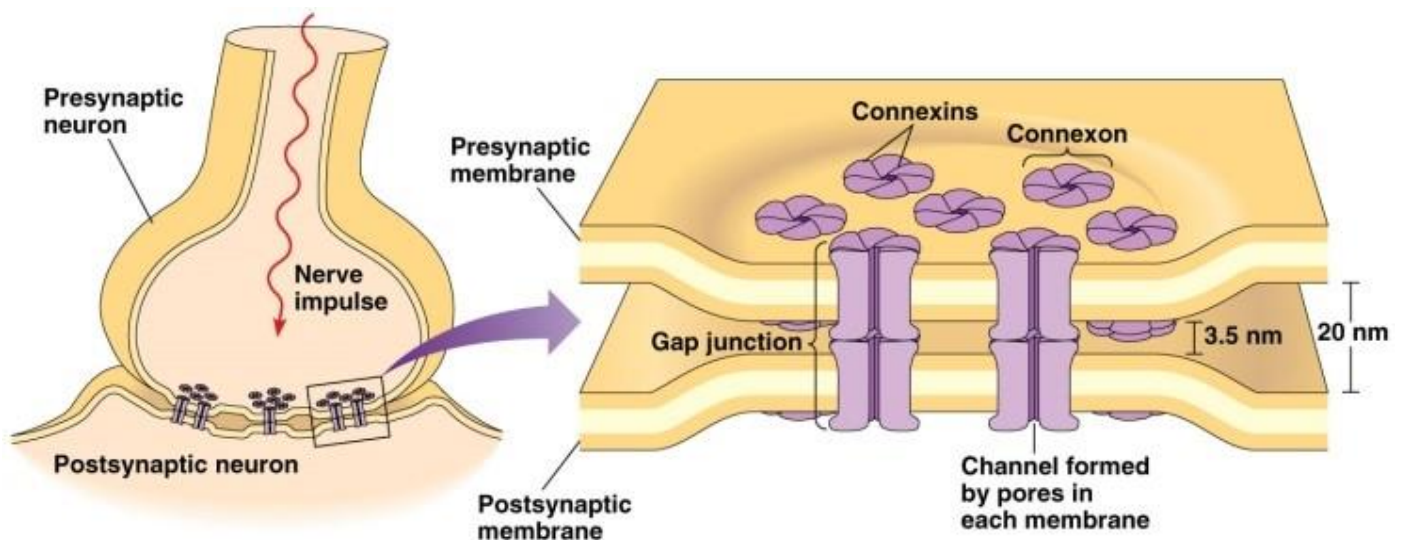


**Desmosomes** tightly link adjacent cells but permit materials to move around them in the intercellular space. Anchored in dense plaques, cell adhesion proteins cross the intercellular space, binding adjacent cells together. Keratin fibers extend through the cytoplasm from one plaque to another.

(c)

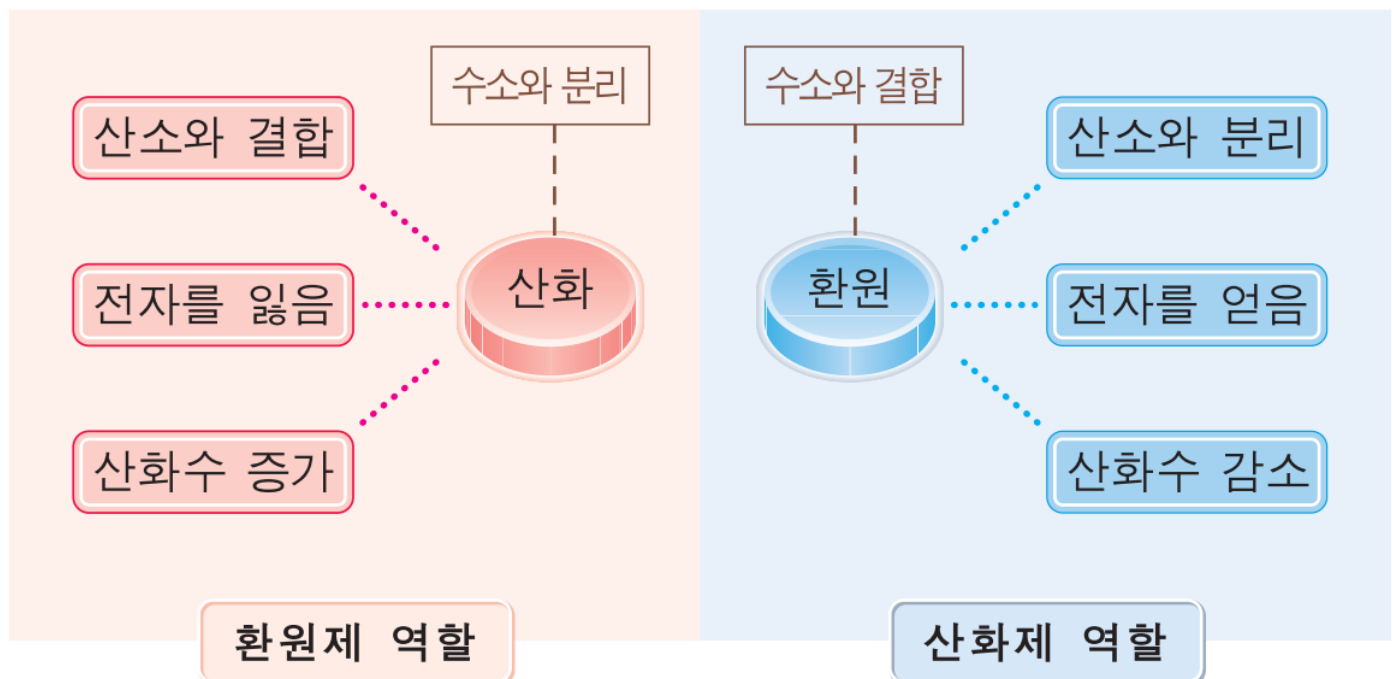
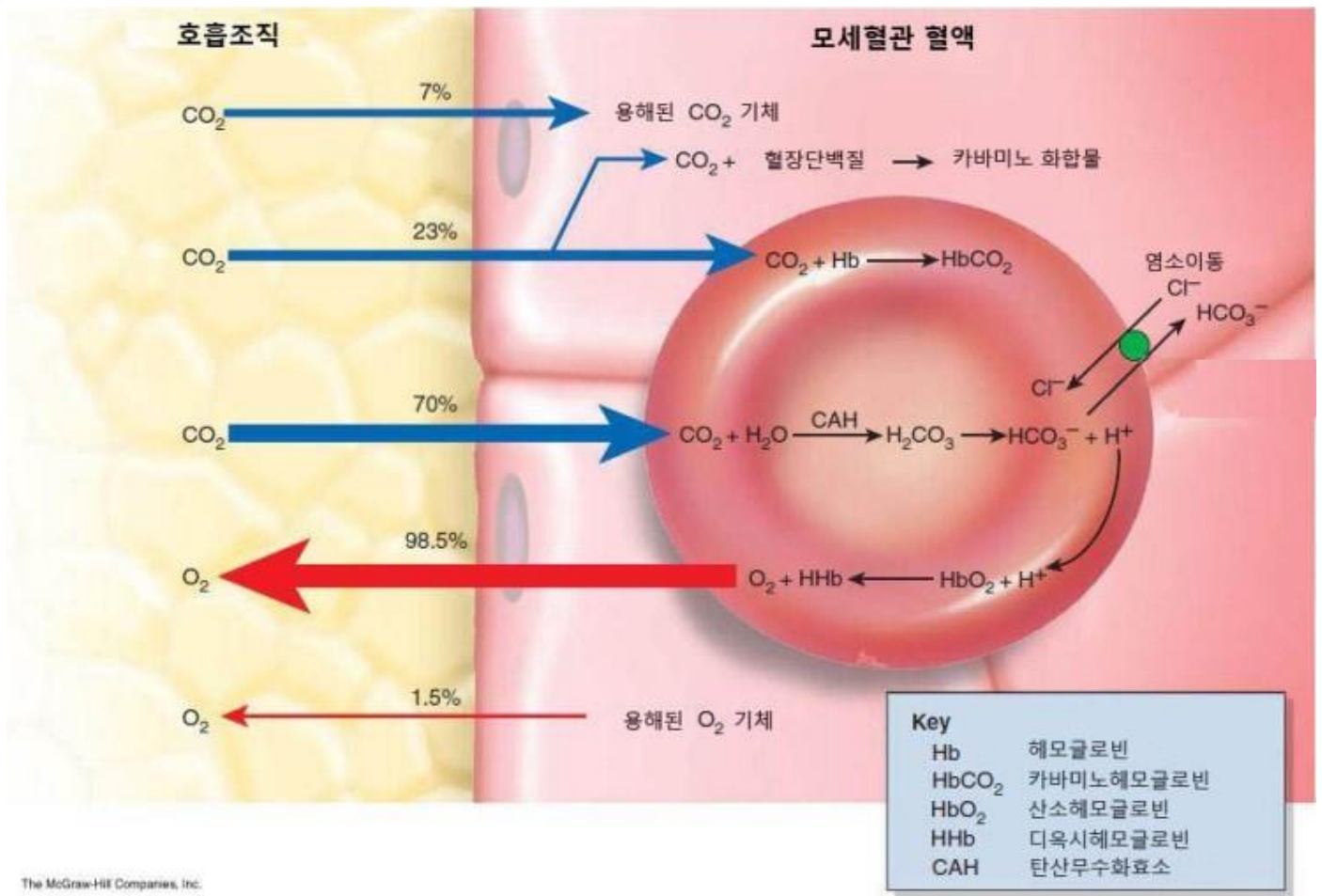


**Gap junctions** let adjacent cells communicate. Dissolved molecules and electric signals may pass from one cell to the other through the channel formed by two connexons extending from adjacent cells.

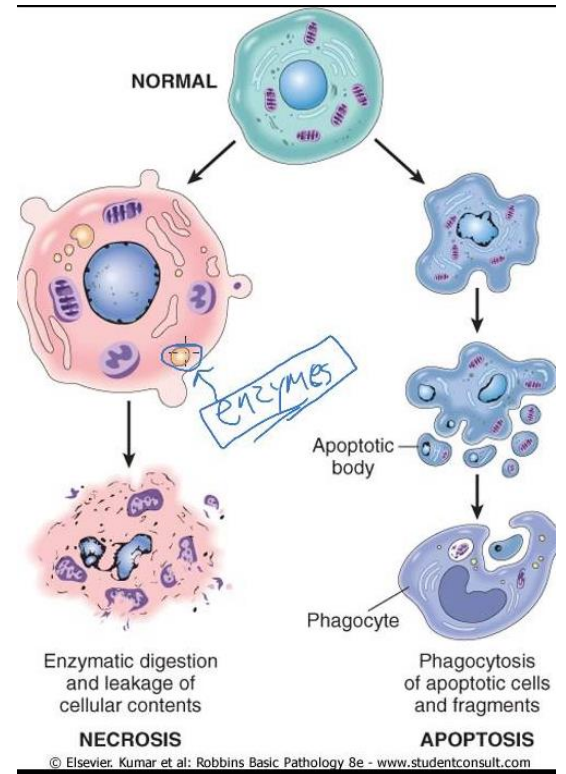
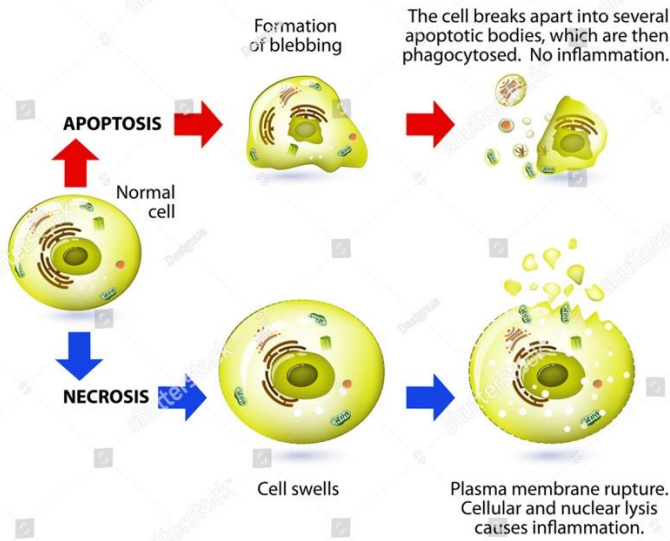


**(a) An electrical synapse**

**(b) Gap junctions**



## CELL DEATH



	<b>Necrosis</b> (uncontrolled cell death)	<b>Apoptosis</b> (programmed cell suicide)
<b>Size</b>	Cellular swelling	Cellular shrinkage
	Many cells affected	One cell affected
<b>Uptake</b>	Cell contents ingested by macrophages	Cell contents ingested by neighbouring cells
	Significant inflammation	No inflammatory response
<b>Membrane</b>	Loss of membrane integrity	Membrane blebbing, but integrity maintained
	Cell lysis occurs	Apoptotic bodies form
<b>Organelles</b>	Organelle swelling and lysosomal leakage	Mitochondria release pro-apoptotic proteins
	Random degradation of DNA	Chromatin condensation and non-random DNA degradation