

KULIAH BIOLOGI SEL (2 SKS)

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SUASANA PEMBELAJARAN BIOLOGI SEL FAKULTAS FARMASI UBAYA 2013/2014



ACTIVE LECTURE



**STRUCTURED
LECTURE**

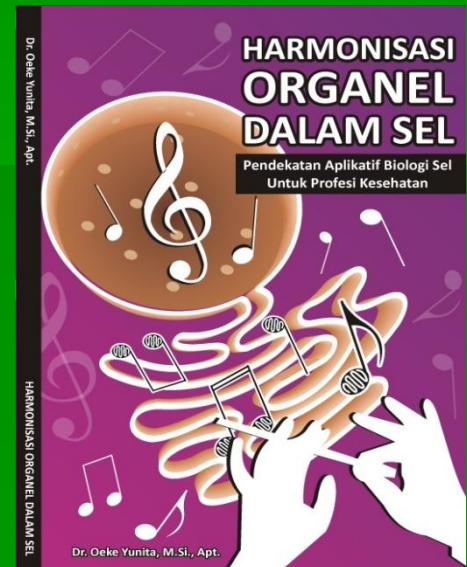


ATURAN UMUM

- Silabus dan Jadwal Belajar
- Kehadiran di kelas : - toleransi 15 menit
- 75 %

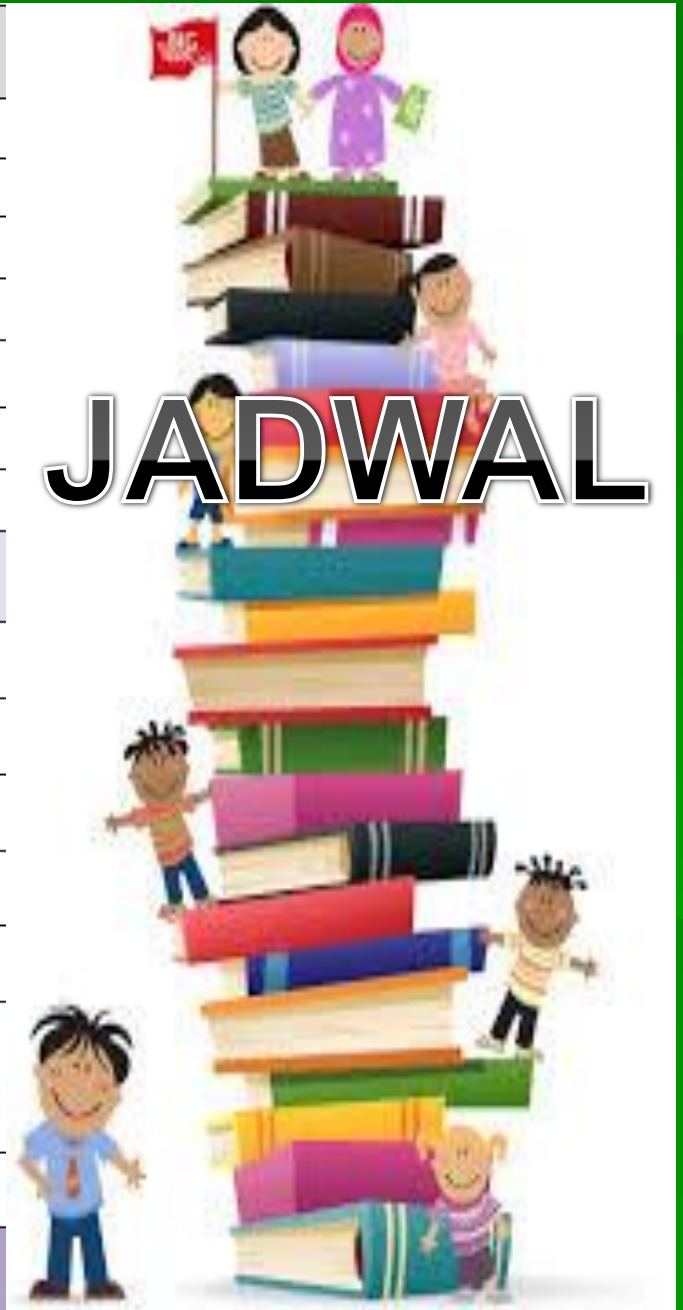


- Koordinator kelas
- Kelompok kelas (sebelum UTS dan UAS) : 5-7 org
- Kelompok tugas
- Persiapan mahasiswa :
 - CD: Silabus, materi power point
 - Buku
 - materi diskusi – map folder warna
 - Tugas : Makalah / Poster



MINGGU	MATERI KULIAH
1	Pendahuluan dan Konsep Umum Biologi Sel
2	Karakteristik Sel dan Organisasi Biologis
3	Biomembran
4	Nukleus dan Kromosom
5	Retikulum endoplasma, ribosom, alat golgi
6	Mitokondria
7	Review dan diskusi "organel dalam sel"
UTS	
8	Lisosom
9	Sitoskeleton – <i>guideline for Poster session</i>
10	Harmonisasi organel dalam sel – <i>Book review</i>
11	Replikasi DNA
12	Sintesis Protein: Transkripsi dan Translasi
13	- Siklus Sel - Review dan diskusi
14	Perkembangan Biologi Sel – <i>Poster session</i>
UAS	

JADWAL



EVALUASI

N	TUGAS / UJIAN	WAKTU	MATERI	BOBOT
1	DISKUSI	Minggu ke 2 - 7	Minggu ke 2-7	25 % NTS
2	MAKALAH	Minggu ke-7	Minggu ke- 3-7	15 % NTS
3	UTS		Minggu ke 1 – 7	60 % NTS
4	DISKUSI	Minggu ke-8-13	Minggu ke-8-13	25 % NAS
5	POSTER	Minggu ke-14	Minggu ke-11-13	15 % NAS
6	UAS		Minggu ke 8-14	60 % NAS

Nilai Tengah Semester (NTS) / Nilai Akhir (NAS) =
diskusi + tugas (makalah / poster) + ujian (UTS/UAS)

Nilai Akhir (NA) = 40 % NTS + 60 % NAS

CONTOH PERHITUNGAN NILAI

UTS

- DISKUSI (25%) = 80
- MAKALAH (15%) = 80
- UTS (60%) = 60
- NTS = ??????

• NTS = 68

UAS

- DISKUSI (25%) = 70
- POSTER (15%) = 70
- UAS (60%) = 50
- NAS = ??????

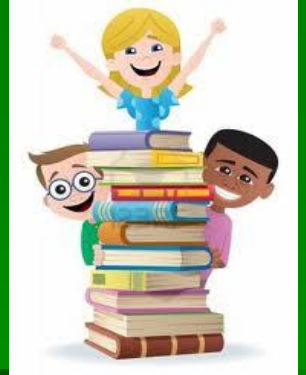
• NAS = 58

Nilai Akhir (NA) = 40 % NTS + 60 % NAS

NA = 62



PUSTAKA



1. Yunita, O. 2013. **Harmonisasi Organel dalam Sel**, Revka Petra Media, Surabaya.
2. Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K., Walter, P. 2008. **Molecular Biology of the Cell**, 5th Ed., Garland Science, Taylor & Francis Group, LLC., New York.
3. Bolsover, S.R., Hyams, J.S., Shephard, E.A., White, H.A., Wiedemann, C.G. 2004. **Cell Biology**, 2ed., John Wiley & Sons, Inc., Hoboken, New Jersey.
4. Kierszenbaum, A.L. 2007. **Histology and Cell Biology: An Introduction to Pathology**, second Ed., 2007, Mosby Elsevier, Philadelphia.
5. Lodish, H., Berk, A., Matsudaira, P., Kaiser, C.A., Krieger, M., Scott, M.P., Zipursky, L., Darnell, J. 2003. **Molecular Cell Biology**, 5th Ed., W H Freeman & Co.
6. O'Connor, C.M., Adams, J.U. 2010. **Essentials of Cell Biology**, NPG Education, Cambridge, MA.

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HARMONISASI ORGANEL DALAM SEL



HARMONISASI ORGANEL DALAM SEL

Pendekatan Aplikatif Biologi Sel
Untuk Profesi Kesehatan

Dr. Oeke Yunita, M.Si., Apt.

Why we should study

BIOLOGI SEL ??

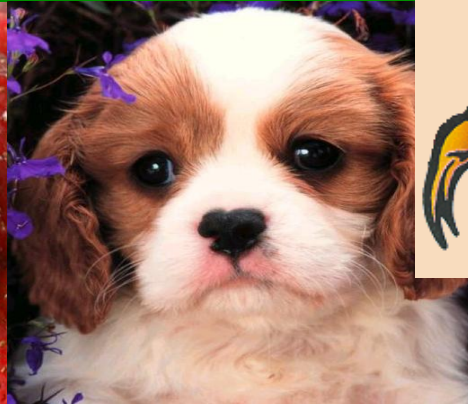




All Living things
consist of



CELL



CELL BIOLOGY

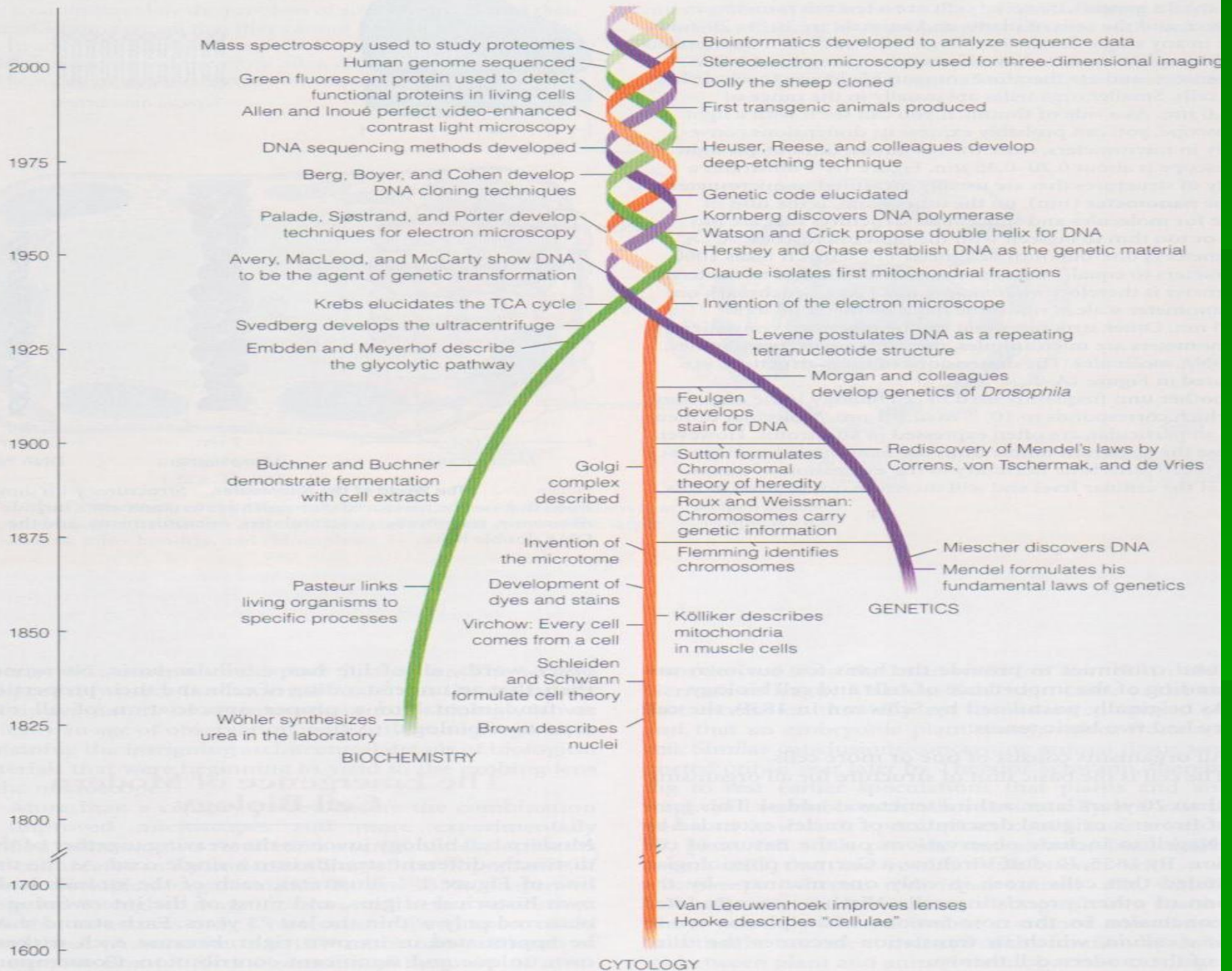
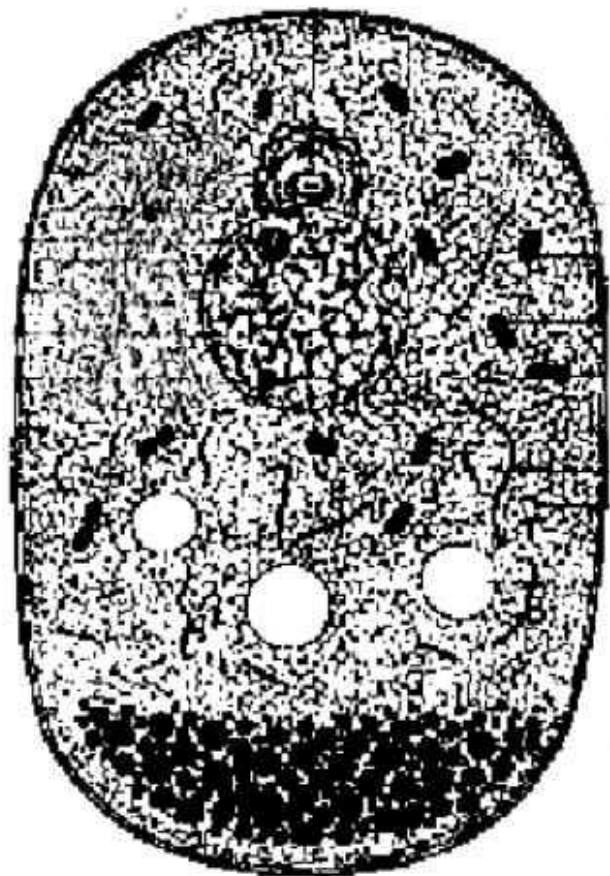


Figure 1-1 The Cell Biology Time Line. Although cytology, biochemistry, and genetics began as separate disciplines, they have increasingly merged since about the second quarter of the twentieth century.

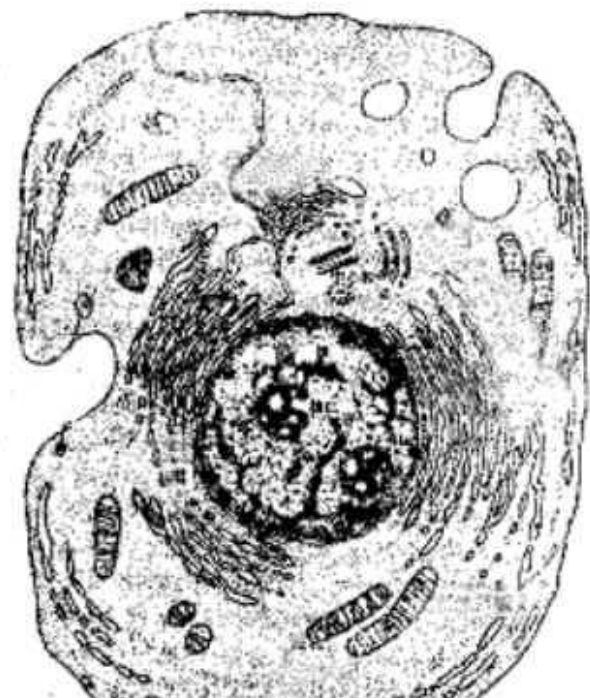
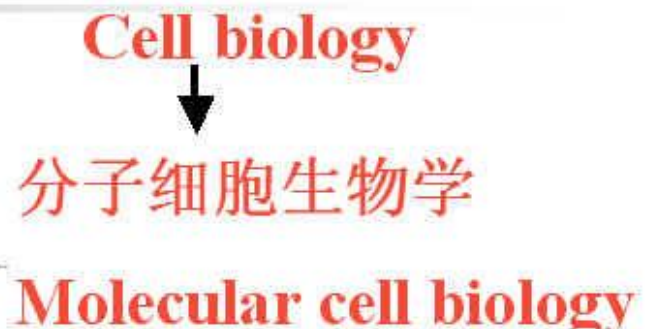


胡克发现的细胞

光镜下的细胞



电镜下的细胞



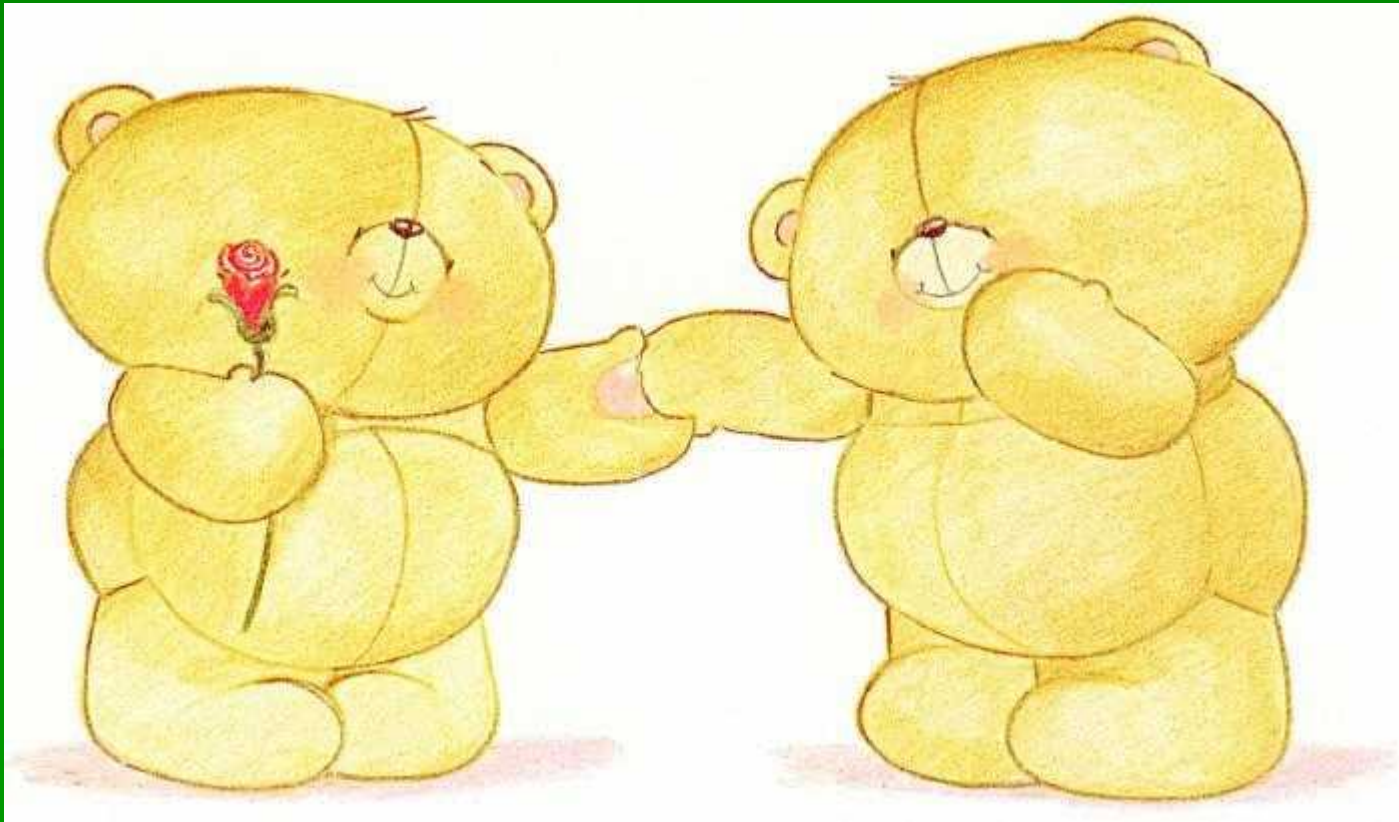


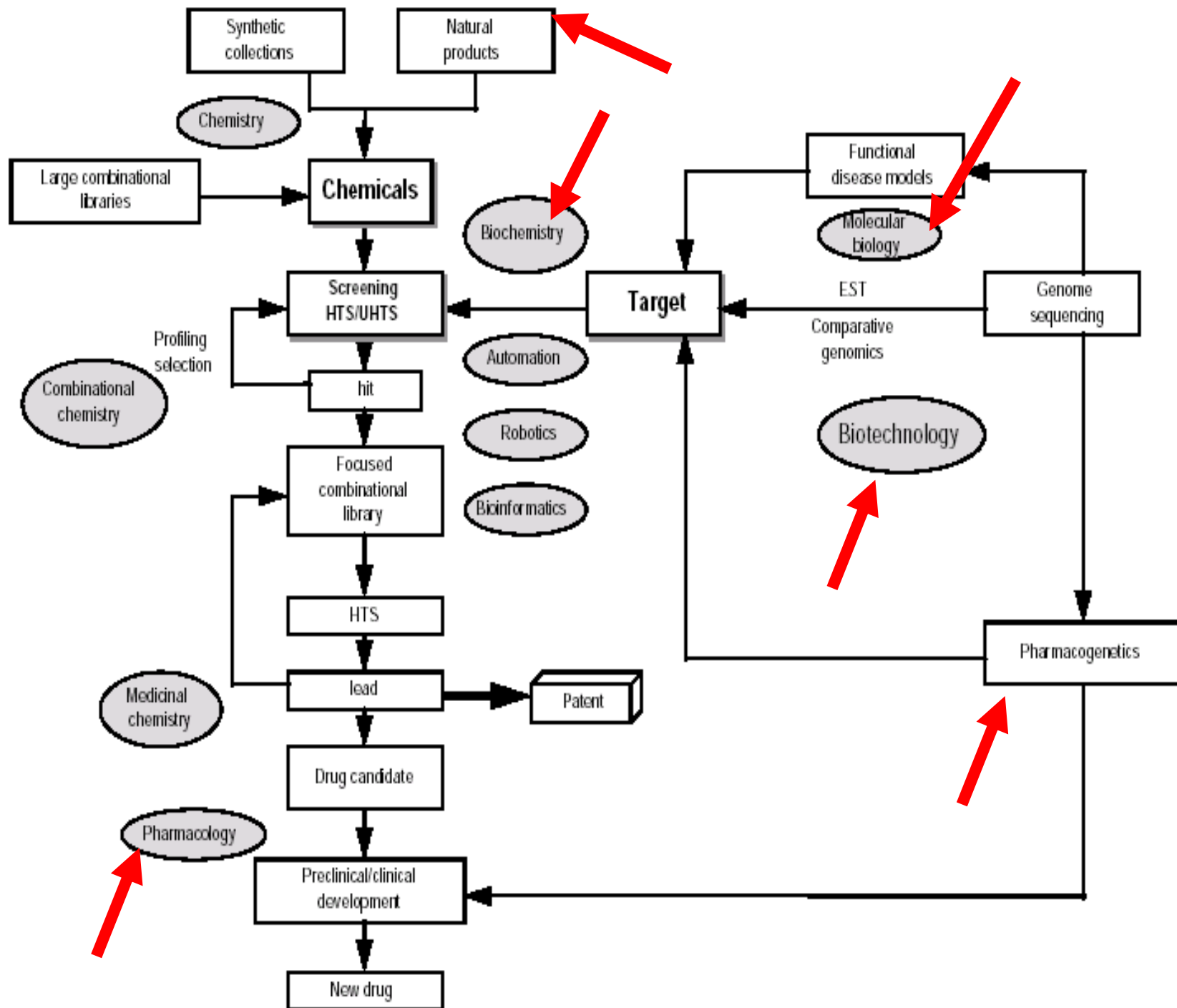
RUANG LINGKUP

Organismal biology	Cell biology	Molecular biology
Neurobiology	Homeostasis	Sequence analysis
Population biology	Molecular transport	Molecular structure & modeling
Physiology	Ion channels	Biochemical reaction dynamics
Infectious diseases	Intercellular communication	Genetic network analysis

HUBUNGAN?

BIOLOGI SEL ↔ **FARMASI**





PERKEMBANGAN



APLIKASI

**BIOLOGI
SEL**

REKAYASA GENETIK



KLONING



Cloning a Sheep The Creation of Dolly

Donor Ewe

Egg Provider

1. A specialized cell was placed in a solution for a few days helping it to become non-specialized.

3. The two cells were fused with electricity.

5. The cell grew into an embryo after it was implanted in a sheep's womb.

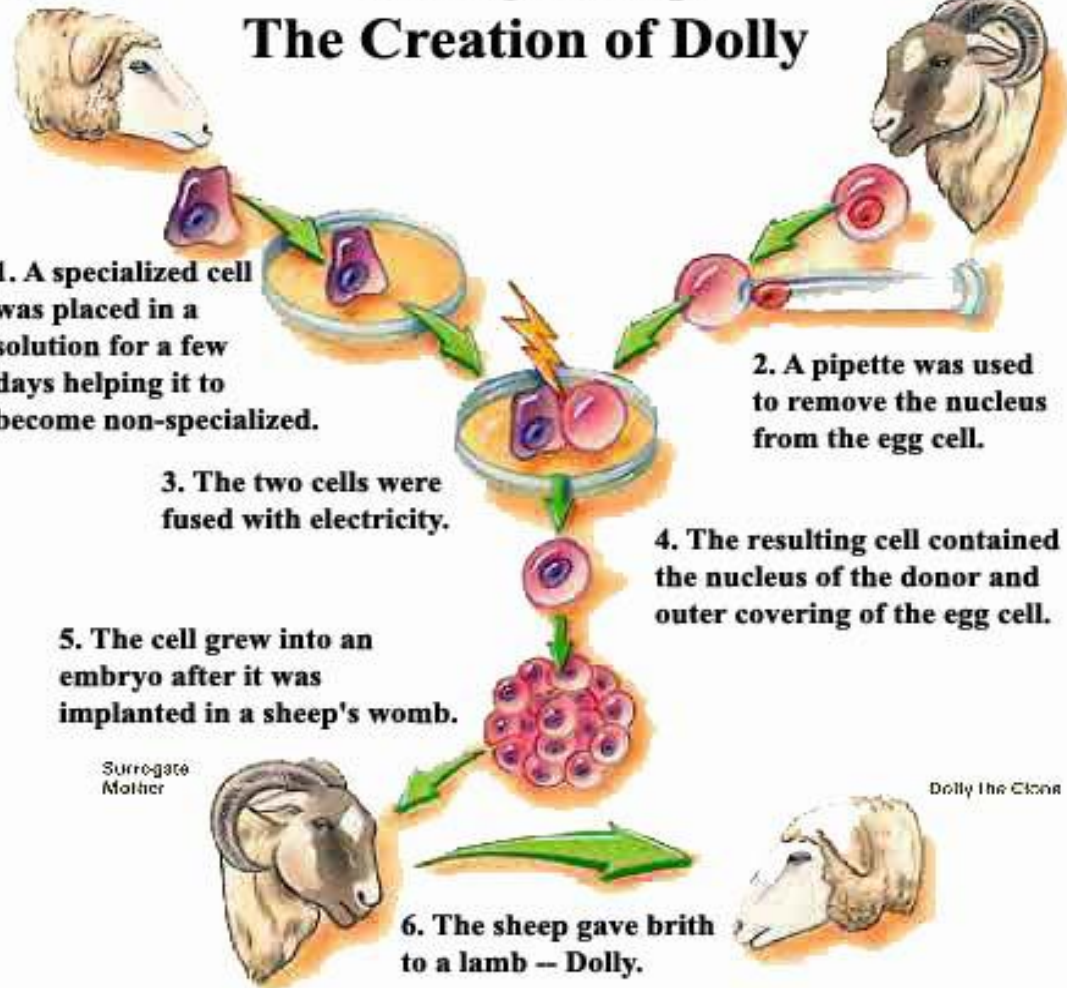
Surrogate Mother

2. A pipette was used to remove the nucleus from the egg cell.

4. The resulting cell contained the nucleus of the donor and outer covering of the egg cell.

6. The sheep gave birth to a lamb – Dolly.

Dolly the Clone



DISEASE OUTBREAK

