

Biology Guardian

Chapter # 1

CELL STRUCTURE AND FUNCTIONS

Lecture # 3

By

Abid Ali Mughal

Assistant Professor/Head of Biology Department
Islamabad Model College for Boys H-9, Islamabad

biologyguardian@gmail.com

Differential Staining

Stain = color dye

Staining = Treatment of a sample with a color dye

purpose = Since most bio. specimen are colorless
so staining tech is use to distinguish
it component

Single Staining

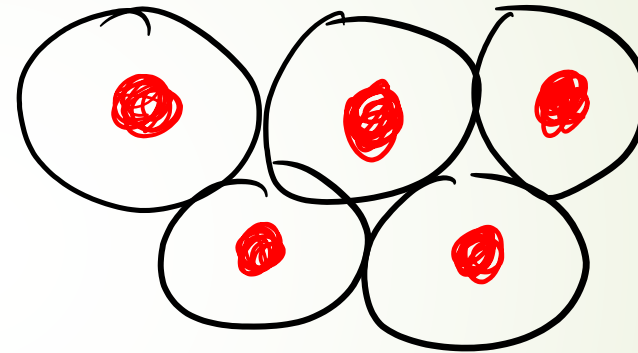
Staining

Double staining

Multiple staining

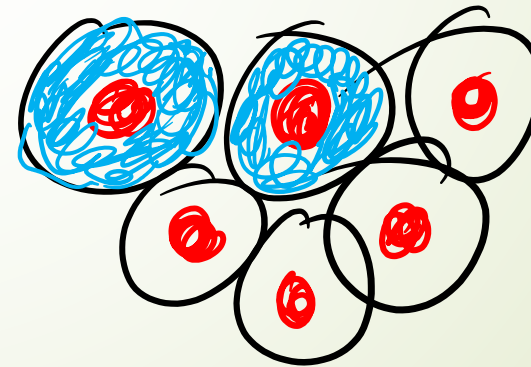
Differential
Staining

Borax carmine = used to stain nucleus
(Single staining)



Haematoxyline : nucleus

Eosin = Cytoplasm

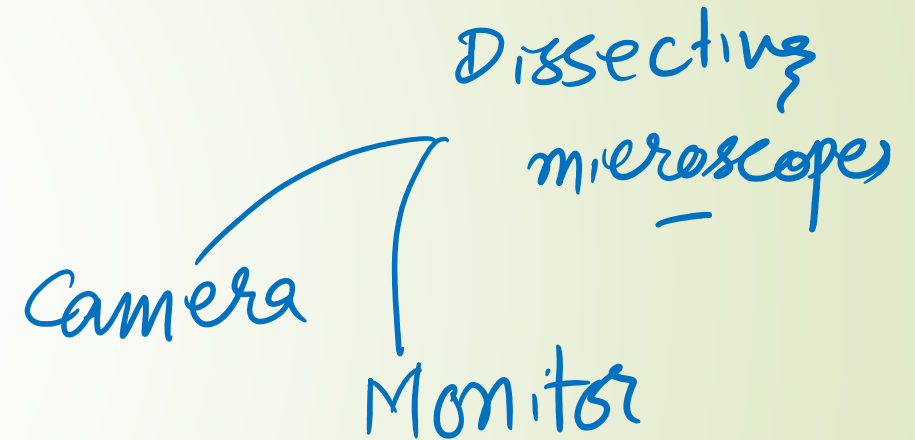


Microdissection = Dissection under the microscope.

Dissection = to cut/manipulate any tissue

purpose

Laparoscopic surgery



Tissue culturing

Growth of a single cell or piece of tissue
in artificial medium under sterile condition

A medium containing
nutrients in measured quantity

Microbe free
env.

Purpose of plant tissue culture

→ to make genetically identical copies of plants (Plant cloning)

Purpose of animal tissue culture

→ to investigate the effect of a drug
→ to diagnose a particular disease
e.g. Cancer (tumour) biopsy
chromosomal

Chromatography = Separate diff. chem. compounds from a mix.

Paper chromatophy

Mobile phase
(solvent)

Stationary phase
(Filter paper)

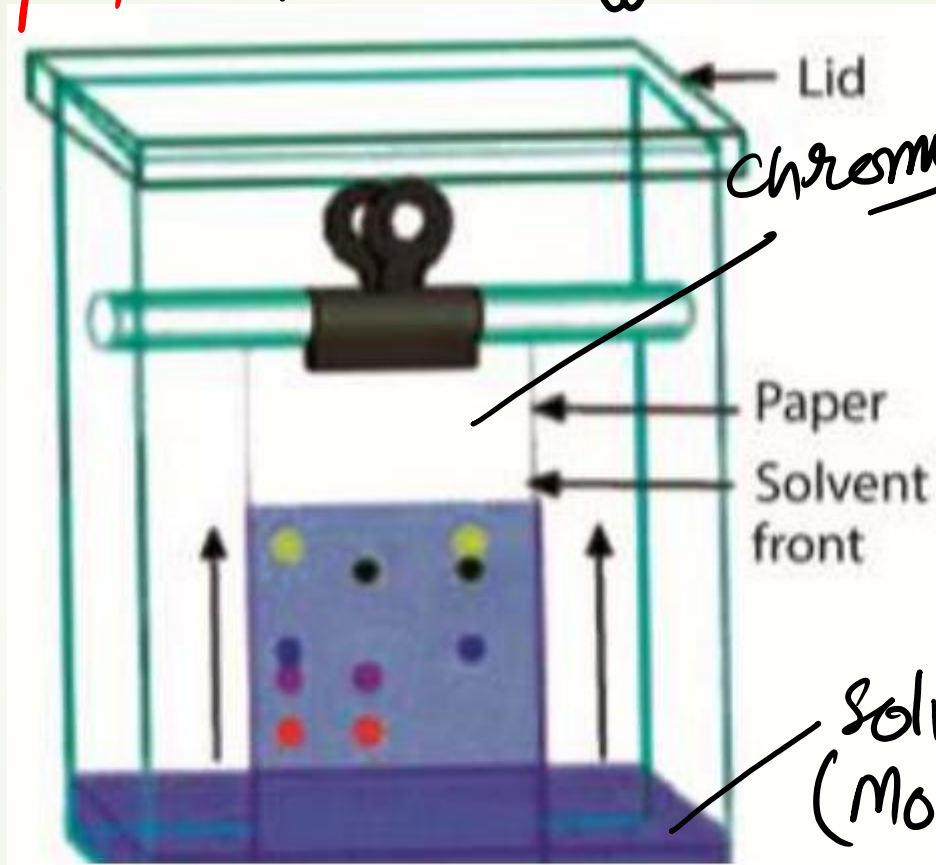


Fig. 1.3: Chromatography chamber

Chromatogram

Mobile phase

→ Mix. is dissolved in it
→ carries it through st. phase

② Stationary phase

→ shows diff. affinity with diff. comp.

→ used to separate them

