

3 SUBCELLULAR MEMBRANES

3-1 Introductory OptiPrep™ Application Sheets

There are seven Introductory Application Sheets that describe:

Differential centrifugation of homogenates [\[APPLICATION SHEET S7\]](#)

Homogenization of

Mammalian tissues [\[APPLICATION SHEET S5\]](#)

Cultured cells [\[APPLICATION SHEET S6\]](#)

Preparation of gradients

Pre-formed [\[APPLICATION SHEET S3\]](#)

Self-generated [\[APPLICATION SHEET S4\]](#)

Preparation of gradient solutions for:

Mammalian subcellular membranes [\[APPLICATION SHEET S1\]](#)

Yeast subcellular membranes [\[APPLICATION SHEET S2\]](#)

To open the chosen Introductory Application Sheet click on the appropriate blue [\[APPLICATION SHEET\]](#)

3-2 OptiPrep™ Application Sheets

There are 44 OptiPrep™ Application Sheets (8-51) devoted to the isolation of specific subcellular membranes or groups of membranes.

Scroll down alphabetical index to find the subcellular membrane(s) of interest.

Click on the relevant blue [\[APPLICATION SHEET\]](#) for a detailed protocol for purification and/or analysis of the membranes. All Application Sheets contain a full bibliography with links to other relevant files, abstracts and full papers (if available).

Acidocalcisomes [\[APPLICATION SHEET S48\]](#)

Budded vesicles

See Protein localization

Caveolae

See Plasma membrane domains

***Chlamydomonas reinhardtii* organelles** [\[APPLICATION SHEET S48\]](#)

Contractile vacuoles (*Trypanosoma cruzi*) [\[APPLICATION SHEET S48\]](#)

Cytoplasmic vesicles

See Protein localization

Cytosol/membrane vesicle separation

See Protein localization

***Dictyostelium discoideum* organelles**

[APPLICATION SHEET S48]

***Drosophila* membranes**

Endoplasmic reticulum/Golgi/plasma membrane

[APPLICATION SHEET S47]

Lipid rafts

[APPLICATION SHEET S47]

Endocytosis analysis

Buoyant density

[APPLICATION SHEET S44]

Sedimentation velocity

[APPLICATION SHEET S42]

Self-generated gradients

[APPLICATION SHEET S43]

Endoplasmic reticulum

Endosomes/Golgi/plasma membrane, separation

Continuous gradient (short spin)

[APPLICATION SHEET S19]

Continuous gradient (long spin)

[APPLICATION SHEET S20]

Continuous gradient (flotation)

[APPLICATION SHEET S21]

Discontinuous gradient

[APPLICATION SHEET S22]

Sedimentation velocity

[APPLICATION SHEET S23]

Rough/smooth fractionation

Self-generated gradient

[APPLICATION SHEET S16]

Sedimentation velocity gradient

[APPLICATION SHEET S17]

Rough/smooth/Golgi fractionation

[APPLICATION SHEET S18]

See also Yeast spheroplasts

Endosomes

See Endocytosis analysis

See Endoplasmic reticulum, endosomes/Golgi/plasma membrane

See Plasma membrane, TGN/endosomes/cytosol

See Transport vesicles/endosomes/TGN

See Yeast spheroplasts

GLUT 4 trafficking

See Transport vesicles/endosomes/TGN

Golgi

See Endoplasmic reticulum, endosomes/Golgi/plasma membrane

See Endoplasmic reticulum, rough/smooth/Golgi

See Plasma membrane, endosomes/TGN/cytosol

See Transport vesicles/endosomes/TGN

***Leishmania major* organelles**

[APPLICATION SHEET S48]

Light mitochondrial fraction, analysis in

Pre-formed gradient

[APPLICATION SHEET S13]

Self-generated gradient

[APPLICATION SHEET S14]

See also Mitochondria

See also Peroxisomes

Lipid rafts

See Plasma membrane domains

Lysosomes

See Light mitochondrial fraction, analysis in

Membrane vesicle/cytosol separation

See Protein localization

Mitochondria:

Mammalian

[APPLICATION SHEET S12]

Yeast spheroplast

[APPLICATION SHEET S15]

Nuclei from animal and plant tissues and cells

[APPLICATION SHEET S8]

Peroxisomes

Continuous gradient

[APPLICATION SHEET S9]

Density barrier

[APPLICATION SHEET S10]

Self-generated gradient

[APPLICATION SHEET S11]

***Phytomonas francai* organelles**

[APPLICATION SHEET S48]

Plasma membrane

Cardiac muscle, from

[APPLICATION SHEET S27]

Cationic colloidal silica, using

[APPLICATION SHEET S28]

Continuous gradient (long spin)

[APPLICATION SHEET S25]

Discontinuous gradient flotation

[APPLICATION SHEET S26]

Pre-formed gradients (short spin)

[APPLICATION SHEET S24]

See also Endoplasmic reticulum, endosomes/Golgi/plasma membrane

Plasma membrane domains

Caco-2 cells

[APPLICATION SHEET S30]

Caveolae

[APPLICATION SHEET S35]

Epithelial cells

[APPLICATION SHEET S32]

Intestinal mucosa

[APPLICATION SHEET S29]

Kidney cortex

[APPLICATION SHEET S31]

Lipid rafts

Detergent strategy

[APPLICATION SHEET S33]

Detergent-free strategy

[APPLICATION SHEET S34]

MDCK cells

See Epithelial cells

NRK cells

See Epithelial cells

Plasma membrane/endosomes/TGN/cytosol

[APPLICATION SHEET S45]

Protein localization (membrane *versus* cytosol)

Discontinuous gradient

[APPLICATION SHEET S36]

Protein complex localization

[APPLICATION SHEET S38]

Self-generated gradient

[APPLICATION SHEET S37]

Retinal rod outer segments

[APPLICATION SHEET S49]

Optical disks

[APPLICATION SHEET S49]

***Rhodospirillum rubrum* organelles**

[APPLICATION SHEET S48]

Secretory granules

Eosinophils

[APPLICATION SHEET S40]

Mouse β TC-F7 cells

See Mouse pancreatic β cells

Mouse pancreatic β cells

[APPLICATION SHEET S39]

Platelets

[APPLICATION SHEET S41]

***Trans*-Golgi Network (TGN)**

See Endoplasmic reticulum, endosomes, Golgi, plasma membranes

See Plasma membrane/endosomes/TGN/cytosol

See Transport vesicles/endosomes/TGN

See Yeast spheroplasts

Transport vesicles/endosomes/TGN

[APPLICATION SHEET S46]

Yeast spheroplasts

Cvt vesicles/endosomes/ER/TGN/vacuole

[APPLICATION SHEET S51]

Cvt vesicles/vacuole

[APPLICATION SHEET S50]

Subvacuolar vesicles/vacuolar vesicles

[APPLICATION SHEET S50]