OptiPrep™ Mini-Review MS09

Resolution of soluble cytosolic proteins from membrane vesicles and organelles: a bibliography

There are three Application Sheets listed in the Application Sheet Index under "Protein localization (membrane *versus* cytosol)" which describe different gradient strategies; they can be found on the OptiPrep™ Applications flash drive or accessed via the following website www.axis-shield-density-gradient-media.com (click on "Methodology", then "Organelles and subcellular membranes" and follow the links from the Index):

- Discontinuous gradient: Application Sheet S35
- Self-generated gradient: Application Sheet S36
- A special strategy for rapid resolution of protein complexes and cytosol: Application Sheet S37
- Note that the resolution of mammalian cell exosomes and other microvesicles from soluble proteins is covered in Mini-Review MS17 and the similar resolution of bacterial and fungal microvesicles in Mini-Review MS16.

The reference list, which follows, includes principally papers describing the separation of membranes and soluble (cytosolic) proteins (**Section 1**); it is divided alphabetically into source material (**cell or tissue type**). It includes both mammalian and non-mammalian sources and in each of the 25 sections, references are listed alphabetically according to first author.

Some papers report the study of previously prepared subcellular membranes to determine the distribution of a particular protein between the soluble fraction and the organelle(s). Others papers describe the separation of vesicles either budded from the cells or obtained from permeabilized cells. These are listed in **Section 2.** In some cases gradients also resolve lipid droplets.

Because a significant number of papers use the methodology for the study of virus processing, these may be listed both in the main cell/tissue references (**Section 1**) and in **Section 3**, which is devoted solely to virus processing.

- To facilitate identification of references of scientific interest key words in titles are highlighted in light blue.

1. Cells or tissues

1.1. Algae

Wood, C.R. and Rosenbaum, J.L. (2014) *Proteins of the ciliary axoneme are found on cytoplasmic membrane vesicles during growth of cilia* Curr. Biol., **24**, 1114-1120

1.2. Bacteria

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Herskovits, A.A., Seluanov, A., Rajsbaum, R., ten Hagen-Jongman, C.M., et al (2001) *Evidence for coupling of membrane targeting and function of the signal recognition particle (SRP) receptor FtsY* EMBO Rep., **2,** 1040-1046

Valent, Q.A., Scotti, P.A., High, S., de Gier, J-W.L., et al (1998) *The Escherichia coli SRP and SecB targeting pathways converge at the translocon* EMBO J., **17**, 2504-2512

1.3. Brain

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Wang, X., Bowers, S.L., Wang, F., Pu, X-a., et al (2009) *Cytoplasmic prion protein induces forebrain neurotoxicity* Biochim. Biophys. Acta **1792**, 555–563

1.4. Carcinoma cells/tissues

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Lee, S.M., Olzmann, J.A., Chin, L-S. and Li, L. (2011) *Mutations associated with Charcot–Marie–Tooth disease cause SIMPLE protein mislocalization and degradation by the proteasome and aggresome–autophagy pathways* J. Cell Sci., **124**, 3319–3331

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Murillo, A., Vera-Estrella, R., Barkla, B.J., Méndez, E. and Arias, C.F. (2015) *Identification of host cell factors associated with astrovirus replication in Caco-2 cells* J. Virol., 89, 10359 –10370

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Welsch, S., Habermann, A., Jäger, S., Müller, B., et al (2006) *Ultrastructural analysis of ESCRT proteins suggests a role for endosome-associated tubular–vesicular membranes in ESCRT function* Traffic, **7**, 1551-1566

1.5. CHO cells

Lin, C-C., Love, H.D., Gushue, J.N., Bergeron, J.J.M., et al (1999) *ER/Golgi intermediates acquire Golgi enzymes by Bredelfin A – sensitive retrograde transport in vitro* J. Cell. Biol., **147**, 1457-1472

Love, H.D., Lin, C.C., Short, C.S. and Ostermann, J. (1998) *Isolation of functional Golgi-derived vesicles with a possible role in retrograde transport* J. Cell Biol., **140**, 541-551

1.6. COS cells

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Kim, Y.S., Laurine, E., Woods, W. and Lee, S-J. (2006) *A novel mechanism of interaction between α-synuclein and biological membranes* J. Mol. Biol., **360**, 386-397

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Bruntz, R.C., Taylor, H.E., Lindsley, C.W. and Brown, H.A. (2014) *Phospholipase D2 mediates survival signaling through direct regulation of Akt in glioblastoma cells* J. Biol. Chem., **289**, 600-616

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Schlehe, J.S., Lutz, A.K., Pilsl, A., Lämmermann, K., et al (2008) *Aberrant folding of pathogenic Parkin mutants: Aggregation versus degradation* J. Biol. Chem., **283**, 13771-13779
Shtanko, O., Imai, M., Goto, H., Lukashevich, I.S., et al (2010) *A role for the C terminus of Mopeia virus nucleoprotein in its incorporation into Z protein-induced virus-like particles* J. Virol., **84**, 5415-5422

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Aligo, J., Jia, S., Manna, D. and Konan, K.V. (2009) *Formation and function of hepatitis C virus replication complexes require residues in the carboxy-terminal domain of NS4B protein* Virology **393**, 68–83

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Cho, N-J., Cheong, K.H., Lee, C.H., Frank, C.W. et al (2007) *Binding dynamics of hepatitis C virus NS5A amphipathic peptide to cell and model membranes* J. Virol., **81**, 6682-6689
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1.12. Jurkat cells

Frankel, A.D., Alber, T., Zhou, Q. and Krogan, N.J. (2011) *Purification and characterization of HIV–human protein complexes* Methods, **53**, 13–19
Geist, M.M., Pan, X., Bender, S., Bartenschlager, R., et al (2014) *Heterologous Src homology 4 domains support membrane anchoring and biological activity of HIV-1 Nef* J. Biol. Chem., **289**, 14030–14044

1.13. Kidney proximal tubule cells (incl. LLC-PK1)

Fölsch, H., Pypaert, M., Maday, S., Pelletier, L., et al (2003) *The AP-1A and AP1B clathrin adaptor complexes define biochemically and functionally distinct membrane domains* J. Cell Biol., **163**, 351-362

Nürnberger, J., Bacallao, R.L. and Phillips, C.P. (2002) *Inversin forms a complex with catenins and N-cadherin in polarized epithelial cells* Mol. Biol. Cell, **13**, 3096-3106

1.14. Liver

Nakatsuka, A., Wada, J., Iseda, I., Teshigawara, S., et al (2012) *Vaspin is an adipokine ameliorating ER stress in obesity as a ligand for cell-surface GRP78/MTJ-1 complex* Diabetes, **61**, 2823–2832

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Grindstaff, K.K., Yeaman, C., Anandasabapathy, N., Hsu, S.C., et al (1998) *Sec6/8 complex is recruited to cell-cell contacts and specifies transport vesicle delivery to the basal-lateral membrane in epithelial cells* Cell, **93**, 731-740

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1.22 Squid axons

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1.24 *Xenopus*

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1.25 Yeast

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Zhang, J., Diaz, A., Mao, L., Ahlquist, P. et al (2012) *Host acyl coenzyme A binding protein regulates replication complex assembly and activity of a positive-strand RNA vrus* J. Virol., **86**, 5110-5121

2. Subcellular membranes

2.1 Golgi membranes

Fath, K.R. (2005) *Characterization of myosin-II binding to Golgi stacks in vitro* Cell Motil. Cytoskeleton, **60**, 222-235

2.2 Lysosomes/endosomes

Morrison, C., Sauble, E.N., Nguyen, A., La, A., et al (2009) *Potential abnormalities in iron metabolism in hyperlipidemia patient fibroblasts* FASEB J., **23**, Abstr. 105.4
Nguyen, A., Zhao, N., Morrison, C., Gonzalez, A., et al (2009) *Mechanisms of iron release from lysosomes* FASEB J., **23**, Abstr. 921.11

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3. Virus processing

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