

OptiPrep™ Reference List RS09

Lipid-rich membranes from non-mammalian sources

The companion **OptiPrep™ Reference List RS06 “Lipid-rich detergent-resistant domains (mammalian sources)”** contains a brief summary of the methodology for the isolation of these plasma membrane domains in addition to the complete reference list of the published papers. Strategies used for invertebrate cells, plant cells, algae, fungi and protozoa are broadly similar. This Reference List is thus confined to the provision of a bibliography of published papers concerned with this diverse group of organisms.

Detailed description of the OptiPrep™ methodology (see **Application Sheets S32 and S33**) can be found via the relevant OptiPrep™ Application Sheets Index on the following website: www.Optiprep.com (click on “Methodology”, then “Organelles and Subcellular Membranes”) and scroll down the Index.

Papers have been divided into **organism or cell type (listed alphabetically)** and additionally, when required, into **research topic**. Within each group papers are listed alphabetically according to **first author**. When a paper reports the study of more than one cell type, reference to that paper will appear under multiple cell headings. A paper may also appear under two or more research topic headings.

- ◆ Part(s) of the titles are highlighted in blue to facilitate identification of particular research topic(s)
- ◆ For “Yeast” see “Fungi”.

1. Amphibia

Bates, R.C., Fees, C.P., Holland, W.L., Winger, C.C., Batbayar, K., Ancar, R., Bergren, T., Petcoff, D. and Stith, B.J. (2014) *Activation of Src and release of intracellular calcium by phosphatidic acid during Xenopus laevis fertilization* Dev. Biol., **386**, 165-180

2. Bacteria

Borrelia burgdorferi

Coleman, J.L., Toledo, A. and Benach, J.L. (2016) *Borrelia burgdorferi HtrA: evidence for twofold proteolysis of outer membrane protein p66* Mol. Microbiol., **99**, 135–150

LaRocca, T.J., Crowley, J.T., Cusack, B.J., Pathak, P., et al (2010) *Cholesterol lipids of Borrelia burgdorferi form lipid rafts and are required for the bactericidal activity of a complement-independent antibody* Cell Host Microbe **8**, 331–342

Toledo, A., Crowley, J.T., Coleman, J.L., LaRocca, T.J., et al (2014) *Selective association of outer surface lipoproteins with the lipid rafts of Borrelia burgdorferi* mBio, **5**: e00899-14

Toledo, A., Pérez, A., Coleman, J.L. and Benach, J. L. (2015) *The lipid raft proteome of Borrelia burgdorferi* Proteomics, **15**, 3662–3675

Escherichia coli

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Guzmán-Flores, J.E., Steinemann-Hernández, L., González de la Vara, L.E., Gavilanes-Ruiz, M., Romeo, T., Alvarez, A.F. and Georgellis, D. (2019) *Proteomic analysis of Escherichia coli detergent-resistant membranes (DRM)* PLoS One, **14**: e0223794

3. Chicken embryo

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4. Coccolithophores

Rose, S.L., Fulton, J.M., Brown, C.M., Natale, F., Van Mooy, B.A.S. and Bidle, K.D. (2014) *Isolation and characterization of lipid rafts in Emiliana huxleyi: a role for membrane microdomains in host-virus interactions* Environ. Microbiol., **16**, 1150–1166

5. *Drosophila melanogaster*

- Eroglu, C., Brügger, B., Wieland, F. and Sinning, I. (2003) *Glutamate-binding affinity of Drosophila metabotropic glutamate receptor is modulated by association with lipid rafts* Proc. Natl. Acad. Sci. USA, **100**, 10219-10224
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- Hebbar, S., Lee, E., Manna, M., Steinert, S., et al (2008) *A fluorescent sphingolipid binding domain peptide probe interacts with sphingolipids and cholesterol-dependent raft domains* J. Lipid Res. **49**, 1077-1089
- Hoehne, M., de Couet, H.G., Stuermer, C.A.O. and Fischbach, K-F. (2005) *Loss- and gain-of-function analysis of the lipid raft proteins reggie/flotillin in Drosophila: they are posttranslationally regulated, and misexpression interferes with wing and eye development* Mol. Cell. Neurosci., **30**, 326-338
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6. Echinoderms

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7. Fish and fish embryo

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8. Fungi

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Acyl chains

Gaigg, B., Toulmay, A. and Scheiter, R. (2006) *Very long-chain fatty acid-containing lipids rather than sphingolipids per se are required for raft association and stable surface transport of newly synthesized plasma membrane ATPase in yeast* J. Biol. Chem., **281**, 34135-34145

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Amino acid transport

Lauwers, E., Grossmann, G. and André, B. (2007) *Evidence for coupled biogenesis of yeast Gap1 permease and sphingolipids: essential role in transport activity and normal control by ubiquitination* Mol. Biol. Cell **18**, 3068-3080

Apoptosis

Büttner, S., Delay, C., Franssens, V., Bammens, T., et al (2010) *Synphilin-1 enhances α -synuclein aggregation in yeast and contributes to cellular stress and cell death in a Sir2-dependent manner* PloS One **5**: e13700

Ca²⁺ - CaM

Ana, B., Chen, Y., Li, B., Qin, G. and Tian, S. (2014) *Ca²⁺-CaM regulating viability of Candida guilliermondii under oxidative stress by acting on detergent resistant membrane proteins* J. Proteom., **109**, 38–49

Cholesterol

Souza, C.M., Schwabe, T.M.E., Pichler, H., Ploier, B., et al (2011) *A stable yeast strain efficiently producing cholesterol instead of ergosterol is functional for tryptophan uptake, but not weak organic acid resistance* Metab. Eng., **13**, 555–569

Coenzyme Q uptake

Padilla-López, S., Jiménez-Hidalgo, M., Martín-Montalvo, A., Clarke, C.F., et al (2009) *Genetic evidence for the requirement of the endocytic pathway in the uptake of coenzyme Q6 in Saccharomyces cerevisiae* Biochim. Biophys. Acta **1788**, 1238–1248

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Ergosterol

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Growth properties

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Iron regulated transport

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Membrane trafficking

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Morphogenesis

Rolli, E., Ragni, E., Calderon, J., Porello, S., et al (2009) *Immobilization of the glycosylphosphatidylinositol-anchored Gas1 protein into the chitin ring and septum is required for proper morphogenesis in yeast* Mol. Biol. Cell, **20**, 4856–4870

Na⁺/H⁺ antiport

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Oxidative stress

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Phospholipids

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