

CURRICULUM VITAE WITH TRACK RECORD

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PERSONAL INFORMATION

Family name, First name: Lamark, Trond
ORCID ID: <https://orcid.org/0000-0001-6338-3342>
Date of birth: 20.06.1962
Sex: Male
E-mail: trond.lamark@uit.no
Nationality: Norwegian

EDUCATION

2019 Universitetspedagogisk basiskompetanse
 University of Tromsø – the Arctic University of Norway (hereafter UiT).
1995 Dr. scient. Microbiology
 The Norwegian College of Fishery Science, University of Tromsø.

CURRENT AND PREVIOUS POSITIONS

2021 → Professor (current position)
 Autophagy Research Group, Department of Medical Biology, UiT.
2011-2021 Associate Professor
 Autophagy Research Group, Department of Medical Biology, UiT.
2002-2010 Researcher
 Autophagy Research Group, Department of Medical Biology, UiT.
1998-2001 Associate Professor
 Department of Pharmacy, University of Tromsø.
1995-1998 Post Doc
 The Norwegian College of Fishery Science, University of Tromsø.

SUPERVISION OF GRADUATE STUDENTS

2003-2021 Main or co-supervision of 13 PhD students, 5 Master Students and 5 Bachelor students.
 Autophagy Research Group, Department of Medical Biology, UiT.

CURRENT TEACHING ACTIVITIES

2011 → Teaching on a regular basis on several bachelor and master level courses at the Department of Medical Biology, UiT.
 Current course leader on two annual courses; one cancer related PhD course (MBI-8007 and MBI-8008; Molecular and Clinical Aspects of cancer Block I and II) and one Bachelor course in Cell Biology (MBI-2012).

CURRENT INSTITUTIONAL RESPONSIBILITIES

2018 → Member of Bachelor's degree Programme board, Department of Medical Biology, UiT.
2021 → Member of Biomedicine Bachelor and Master Programme board, Department of Medical Biology, UiT.
2020 → Member of Institute Council for the Department of Medical Biology, UiT.

COMMISSIONS OF TRUST

2015 → Peer reviewer of submitted manuscripts to leading international peer-reviewed journals.

TRACK RECORD

1. Publications in international peer-review journals (scopus H-index 47).

Rogov, VV., Nezis, IP., Tsapras, P., Zhang, H., Dagdas, Y., Noda, NN., Nakatogawa, H., Wirth, M., Moulleron, S., McEwan, DG., Behrends, C., Deretic, V. Elazar, Z., Tooze, SA., Dikic, I., **Lamark, T.**, and Johansen, T. (2023) Atg8 family proteins, LIR/AIM motifs and other interaction modes. *Autophagy Rep.* 2: 2188523. doi 10.1080/27694127.2023.2188523.

Rasmussen, NL., Zhou, J., Olsvik, HL., Kaeser-Perbernard, S., **Lamark, T.**, Dengjel, J., and Johansen, T. (2023) The inflammation repressor TNIP1/ABIN-1 is degraded by autophagy following TBK1 phosphorylation of its LIR. *Autophagy*. doi 10.1080/15548627.2023.2185013.

Zhou, J., Rasmussen, NL., Olsvik, HL., Akimov, V., Hu, Z., Evjen, G., Kaeser-Perbernard, S., Sankar, DS., Roubaty, C., Verlhac, P., van de Bec, N., Reggiori, F., Abudu, YP., Blagoev, B., **Lamark, T.**, Johansen, T and Dengjel, J. (2023) TBK1 phosphorylation activates LIR-dependent degradation of the inflammation repressor TNIP1. *J Cell Biol.* 222:e202108144. doi 10.1083/jcb.202108144.

Rasmussen, NL., Kournoutis, A., **Lamark, T.**, and Johansen, T (2022) NBR1: The archetypal selective autophagy receptor. *J Cell Biol.* 221:e202208092. doi 10.1083/jcb.202208092.

Garcia-Garcia, J., Berge, AKM., Overås, KS., Larsen, KB., Bhujabal, Z., Brech, A., Abudu, YP., **Lamark, T.**, Johansen, T, and Sjøttem, E. (2022) TRIM27 is an autophagy substrate facilitating mitochondria clustering via phosphorylated TBK1. *FEBS J.* doi 10.1111/febs.16628.

Lamark, T., and Johansen, T (2021) Mechanisms of selective autophagy. *Annu Rev Cell Dev Biol.* 37: 143-169. doi 10.1146/annurev-cellbio-120219-035530.

Abudu, YP., Moulleron, S., Tooze, SA., **Lamark, T.**, and Johansen, T (2021) SAMM50 is a receptor for basal piecemeal mitophagy and acts with SQSTM1/p62 in OXPHOS-induced mitophagy. *Autophagy.* 18:1-3, doi 10.1080/15548627.2021.1953846.

Nthiga, TM., Shrestha, BK., **Lamark, T.**, and Johansen, T (2021) The soluble reticulophagy receptor CALCOCO1 is also a Golgiphagy receptor. *Autophagy.* 17:2051-52, doi 10.1080/15548627.2021.1940610.

Abudu, YP., Shrestha, BK., Zhang, W., Palara, A., Brenne, HB., Larsen, KB., Wolfson, DL., Dumitriu, G., Øie, CI., Ahluwalia, BS., Levy, G., Behrends, C., Tooze, SA., Moulleron, S., **Lamark, T.**, and Johansen, T (2021) SAMM50 acts with p62 in piecemeal basal- and OXPHOS-induced mitophagy of SAM- and MICOS components. *J Cell Biol.* 220(8):e202009092, doi 10.1083/jcb.202009092.

Nthiga, TM., Shrestha, BK., Bruun, JA., Larsen, KB., **Lamark, T*.**, and Johansen, T* (2021) Regulation of Golgi turnover by CALCOCO1-mediated selective autophagy. *J Cell Biol.* 220(6):e202006128, doi 10.1083/jcb.202006128. *Corresponding author.

Klionsky, DJ., Johansen, T., **Lamark, T.**, and about 2000 others (2021) Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition). *Autophagy.* 17:1-382, doi 10.1080/15548627.2020.1797280.

Nthiga, TM., Shrestha, BK., **Lamark, T.**, and Johansen, T (2020) CALCOCO1 is a soluble ER-phagy receptor. *Autophagy.* 16:1729-31, doi 10.1080/15548627.2020.1797289.

Nthiga, TM., Shrestha, BK., Sjøttem, E., Bruun, JA., Larsen, KB., **Lamark, T*.**, and Johansen, T* (2020) CALCOCO1 acts with VAMP-associated proteins to mediate ER-phagy. *EMBO J.* 39(15):e103649, doi 10.15252/embj.2019103649. *Corresponding author.

Shrestha, BK., Skytte Rasmussen, M., Abudu, YP., Bruun, JA., Larsen, KB., Alemu, E., Sjøttem, E., **Lamark, T.**, and Johansen, T (2020) NIMA-related kinase 9-mediated phosphorylation of the microtubule-associated LC3B protein at Thr-50 suppresses selective autophagy of p62/sequestosome 1. *J Biol Chem.* 295:1240-60, doi 1074/jbc.RA119.010068.

Jakobi, AJ., Huber, ST., Mortensen, SA., Schultz, SW., Palara, A., Kuhm, T., Shrestha, BK., **Lamark, T.**, Hagen, WJH., Wilmanns, M, Johansen, T., Brech, A., Sachse, C (2020) Structural basis of

p62/SQSTM1 helical filaments and their role in cellular cargo uptake. *Nature Comm.* 11(1):440, doi 10.1038/s41467-020-14343-8.

Johansen, T., and **Lamark, T (2020)** Selective autophagy: ATG8 family proteins, LIR motifs and cargo receptors. *J Mol Biol.* 432:80-103, doi 10.1016/j.jmb.2019.07.016.

Overå, K., Garcia, JG., Bhujabal, Z., Jain, A., Øvervatn, A., Larsen, KB., Deretic, V., Johansen, T., **Lamark, T.**, and Sjøttem, E (2019) TRIM32 plays a dual role as a substrate and a regulator of the autophagy receptor p62/SQSTM1 impaired in an inheritable muscular dystrophy disease. *J Cell Sci.* 132(23):jcs236596, doi 10.1242/jcs.236596.

Abudu, YP., Pankiv, S., Mathai, BJ., **Lamark, T.**, Johansen, T., and Simonsen, A (2019) NIPSNAP1 and NIPSNAP2 act as “eat me” signals to allow sustained recruitment of autophagy receptors during mitophagy. *Autophagy.* 15:1845-47, doi 10.1080/15548627.2019.1637642.

Abudu, YP., Pankiv, S., Mathai, BJ., Lystad, AH., Bindesbøll, C., Brenne, HB., Ng, MYW., Thiede, B., Yamamoto, A., Nthiga, TM., **Lamark, T.**, Esguerra, CV., Johansen, T., and Simonsen, A (2019) NIPSNAP1 and NIPSNAP2 act as “eat me” signals for mitophagy. *Dev Cell.* 49:509-25, doi 10.1016/j.devcel.2019.03.013.

Hoem, G., Larsen, KB., Øvervatn, A., Brech, A., **Lamark, T.**, Sjøttem, E., and Johansen, T (2019) The FMRpolyGlycine protein mediates aggregate formation and toxicity independent of the CGG mRNA hairpin in a cellular model for FXTAS. *Frontiers Genet.* 10:249, doi 10.3389/fgene.2019.00249.

Birgisdottir, ÅB., Moulleron, S., Bhujabal, Z., Wirth, M., Sjøttem, E., Evjen, G., Zhang, W, Lee, R., Reilly, NO., Tooze, SA., **Lamark, T.**, and Johansen, T (2019) Members of the autophagy class III phosphatidylinositol 3-kinase complex I interact with GABARAP and GABARAPL1 via LIR motifs. *Autophagy.* 15:133-55, doi 10.1080/15548627.2019.1581009.

Lamark, T., Svenning, S., and Johansen, T (2017) Regulation of selective autophagy: The p62/SQSTM1 paradigm. *Essays Biochem.* 61:609-24, doi 10.1042/EBC20170035.

Bhujabal, Z., Birgisdottir, ÅB., Sjøttem, E., Brenne, H., Øvervatn, A, Habisov, S., Kirkin, V., **Lamark, T.**, and Johansen, T (2017) FKBP8 recruits LC3A to mediate Parkin-independent mitophagy. *EMBO Rep.* 18:947-61. doi 10.15252/embr.201643147.

Skytte Rasmussen, M., Moulleron, S., Shrestha, BK., Wirth, M., Lee, R., Larsen, KB, Princely, YA., Reilly, NO., Sjøttem, E, Tooze, SA., **Lamark, T*.**, and Johansen, T* (2017) ATG4B contains a C-terminal LIR motif important for binding and efficient cleavage of mammalian orthologs of yeast Atg8. *Autophagy.* 13:834-53, doi 10.1080/15548627.2017.1287651. *Corresponding author.

Klionsky, DJ., Johansen, T., **Lamark, T.**, and about 2000 others (2016) Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). *Autophagy.* 12:1-222, doi 10.1080/15548627.2015.1100356.

Olsvik, H., **Lamark, T.**, Takagi, K., Larsen, KB., Evjen, G., Øvervatn, A, Mizushima, T., and Johansen, T (2015) FYCO1 contains a C-terminally extended, LC3A/B preferring LC3-interacting region (LIR) motif required for efficient maturation of autophagosomes during basal autophagy. *J Biol Chem.* 290:29361-74, doi 10.1074/jbc.M115.686915.

Dou, Z., Xu, C., Donahue, G., Shimi, T., Pan, J-A., Zhu, J., Ivanov, A., Capell, BC., Drake, AM., Shah, PP, Catanzaro, JM., Ricketts, MD., **Lamark, T.**, Adam, SA., Marmorstein, M., Zong, W-X., Johansen, T., Goldman, RD., Adams, SA., and Berger, SL (2015) Autophagy mediates degradation of nuclear lamina. *Nature.* 527:105-9, doi 10.1038/nature15548.

Jain, A., Rusten, TE., Katheder, N., Elvenes, J., Bruun, J-A., Sjøttem, E., **Lamark, T.**, and Johansen, T (2015) *p62/sequestosome-1*, *autophagy-related gene 8* and autophagy in *Drosophila* are regulated by Nuclear factor erythroid 2-related factor 2 (NRF2), independent on transcription factor TFEB. *J Biol Chem.* 290:14945-62, doi 10.1074/jbc.M115.656116.

Ciuffa, R., **Lamark, T.**, Tarafder, A., Guesdon, A., Rybina, S., Hagen, WJH., Johansen, T., and Sachse, C (2015) The selective autophagy receptor p62 forms a flexible filamentous helical scaffold. *Cell reports.* 11:748-58, doi 10.1016/j.celrep.2015.03.062.

Johansen, T and **Lamark, T (2014)** Selective autophagy goes exclusive. *Nature Cell Biol.* 16:395-7, doi 10.1038/ncb2961.

Birgisdottir, ÅB., **Lamark, T.**, and Johansen, T (**2013**) The LIR motif: crucial for selective autophagy. *J Cell Science.* 126:3237-47, doi 10.1242/jcs.126128.

Deosaran, E., Larsen, KB., Hua, R., Sargent, G., Wang, Y., Kim, S., **Lamark, T.**, Jauregui, M., Law, K., Lippincott-Schwartz, J., Brech, A., Johansen, T., and Kim, PK (**2013**) NBR1 acts as an autophagy receptor for peroxisomes. *J Cell Science.* 126:939-52, doi 10.1242/jcs.114819.

Alemu, EA*, **Lamark, T***, Torgersen, KM., Birgisdottir, AB., Larsen, KB., Jain, A., Olsvik, H., Øvervatn, A., Kirkin, V., and Johansen, T (**2012**) ATG8 family proteins act as scaffolds for assembly of the ULK complex: Sequence requirements for LC3-interacting region (LIR) motifs. *J Biol Chem.* 287:39275-90, doi 10.1074/jbc.M112.378109. *Authors contributed equally.

Kleine, H., Herrmann, A., **Lamark, T.**, Forst, AH., Verheugd, P., Lüscher-Firzlaff, J., Lippok, B., Feijs, KLH., Herzog, N., Kremmer, E., Johansen, T., Müller-Newen, G., and Lüscher, B (**2012**) Dynamic subcellular localization of the mono-ADP-ribosyltransferase ARTD10 and interaction with the ubiquitin receptor p62. *Cell Communication and Signaling.* 10(1)28, doi 10.1186/1478-811X-10-28.

Klionsky, DJ., Johansen, T., **Lamark, T.**, and 1267 others (**2012**) Guidelines for the use and interpretation of assays for monitoring autophagy (2nd edition). *Autophagy.* 8:445-544, doi 10.4161/auto.19496.

Sancho, A., Duran, J., Garcia-Espana, A., Mauvezin, C., Alemu, EA., **Lamark, T.**, Macias, MJ., Desalle, R., Royo, M., Sala, D., Chicote, JU., Palacin, M., Johansen, T., and Zorzano, A (**2012**) DOR/Tp53inp2 and Tp53inp1 constitute a metazoan gene family encoding dual regulators of autophagy and transcription. *PLoS One.* 7(3):e34034, doi 10.1371/journal.pone.0034034.

Lamark, T and Johansen, T (**2012**) Aggrephagy: Selective disposal of protein aggregates by macroautophagy. *Int J Cell Biol.* doi 10.1155/2012/736905.

Svenning, S., **Lamark, T.**, Krause, K., and Johansen, T (**2011**) Plant NBR1 is a selective autophagy substrate and a functional hybrid of the mammalian autophagic adapters NBR1 and p62/SQSTM1. *Autophagy.* 7:993-1010.

Johansen, T and **Lamark, T (2011)** Selective autophagy mediated by autophagic adapter proteins. *Autophagy.* 7:279-96.

Nezis, IP., Shrivage, BV., Sagona, AP., **Lamark, T.**, Bjørkøy, G., Johansen, T., Rusten, TE., Brech, A., Baehrecke, EH., and Stenmark, H (**2010**) Autophagic degradation of dBruce controls DNA fragmentation in nurse cells during late *Drosophila* oogenesis. *J Cell Biol.* 190:523-31.

Larsen, KB., **Lamark, T.**, Øvervatn, A., Harneshaug, I., Johansen, T., and Bjørkøy, G (**2010**) A novel reporter cell system to estimate the speed of autophagy. *Autophagy.* 16:784-93.

Jain, A., **Lamark, T.**, Sjøttem, E., Larsen, KB., Awuh, JA., Øvervatn, A., McMahon, M., Hayes, JD., and Johansen, T (**2010**) p62/SQSTM1 is a target gene for transcription factor NRF2 and creates a positive feedback loop by inducing antioxidant response-driven gene transcription. *J Biol Chem.* 285:22576-91.

Filimonenko, M., Isakson, P., Sanderson, M., Finley, K., Jeong, H., Melia, T., Bartlett, BJ., Birkeland, HCG., **Lamark, T.**, Brech, A., Stenmark, H., Krainc, D., Simonsen, A., and Yamamoto, A (**2010**) The selective macroautophagic degradation of aggregated proteins requires the phosphatidylinositol 3-phosphate binding protein Alf. *Molecular Cell.* 38:265-79.

Clausen, TH*, **Lamark, T***, Isakson, P*, Finley, K., Larsen, KB., Brech, A., Øvervatn, A., Stenmark, H., Bjørkøy, G., Simonsen, A., and Johansen, T (**2010**) p62/SQSTM1 and ALFY interact to facilitate the formation of p62 bodies/ALIS and their degradation by autophagy. *Autophagy.* 6:330-44. *Authors contributed equally.

Pankiv, S., **Lamark, T.**, Bruun, JA., Øvervatn, A., Bjørkøy, G., and Johansen, T (**2010**) Nucleocytoplasmic shuttling of p62/SQSTM1 and its role in recruitment of nuclear polyubiquitinated proteins to PML bodies. *J Biol Chem.* 285:5941-53.

Pankiv, S., Alemu, EA., Brech, A., Bruun, JA., **Lamark, T.**, Øvervatn, A., Bjørkøy, G., and Johansen, T (2010) FYCO1 is a novel Rab7 effector binding to LC3 and PI3P to mediate microtubule plus-end-directed vesicle transport. *J Cell Biol.* 25:253-69.

Lamark, T. and Johansen, T (2010) Autophagy – links with the proteasome. *Curr Opin Cell Biol.* 22:192-8.

Zheng, YT., Shahnazari, S., Brech, A., **Lamark, T.**, Johansen, T., and Brumell, JH (2009) The adaptor protein p62/SQSTM1 targets invading bacteria to the autophagy pathway. *J Immunol.* 183:5909-16.

Lamark, T., Kirkin, V., Dikic, I., and Johansen, T (2009) NBR1 and p62 as cargo receptors for selective autophagy of ubiquitinated targets. *Cell Cycle.* 8:1986-90.

Kirkin, V., **Lamark, T.**, Johansen, T., and Dikic, I (2009) NBR1 co-operates with p62 in selective autophagy of ubiquitinated targets. *Autophagy.* 5:732-33.

Kirkin, V*, **Lamark, T***, Sou, Y-S*, Bjørkøy, G., Nunn, JL., Bruun, JA., Shvets, E., McEwan, DG., Clausen, TH., Bilusic, I., Theurillat, J-P., Øvervatn, A., Ishii, T., Elazar, Z., Komatsu, M., Dikic, I., and Johansen, T (2009) A role for NBR1 in autophagosomal degradation of ubiquitinated substrates. *Molecular Cell.* 33:505-16. *Authors contributed equally.

Bjørkøy, G., **Lamark, T.**, Pankiv, S., Øvervatn, A., Brech, A., and Johansen, T (2009) Monitoring autophagic degradation of p62/SQSTM1. *Meth Enzymol.* 452:181-97.

Nezis, N. P., **Lamark, T.**, Velentzas, AD., Rusten, TE., Bjørkøy, G., Johansen, T., Papassideri, IS., Stravopodis, DJ., Margaritis, LH., Stenmark, H., and Brech, A (2009) Cell death during *Drosophila melanogaster* early oogenesis is mediated through autophagy. *Autophagy.* 5:298-302.

Pankiv, S., Clausen, TH., **Lamark, T.**, Brech, A., Bruun, JA., Outzen, H., Øvervatn, A., Bjørkøy, G., and Johansen, T (2007) p62/SQSTM1 binds directly to Atg8/LC3 to facilitate degradation of ubiquitinated protein aggregates by autophagy. *J Biol Chem.* 282:24131-45.

Erdogan, E., **Lamark, T.**, Stallings-Mann, M., Lee, J., Pellechia, M., Johansen, T., and Fields, AP (2006) Aurothiomalate inhibits transformed growth by targeting the PB1 domain of protein kinase C α . *J Biol Chem.* 281:28450-59.

Bjørkøy, G., **Lamark, T.**, and Johansen, T: p62/SQSTM1 (2006) A Missing Link between Protein Aggregates and the Autophagy Machinery. *Autophagy.* 2:138-39.

Bjørkøy, G., **Lamark, T.**, Brech, A., Outzen, H., Perander, M., Øvervatn, A., Stenmark, H., and Johansen, T (2005) p62/SQSTM1 forms protein aggregates degraded by autophagy and has a protective effect on huntingtin-induced cell death. *J Cell Biol.* 171:603-14.

Gruber, FX, **Lamark, T.**, Anonli, A., Sovershaev, MA., Olsen, M., Gedde-Dahl, T., Hjort-Hansen, H., and Skogen, B (2005) Selecting and deselecting imatinib-resistant clones: observations made by longitudinal, quantitative monitoring of mutated BCR-ABL. *Leukemia.* 19:2159-65.

Lamark, T*, Perander, M*, Outzen, H*, Kristiansen, K., Overvatn, A., Michaelsen, E., Bjørkøy, G., and Johansen, T (2003) Interaction codes within the family of mammalian Phox and Bem1p domain-containing proteins. *J Biol Chem.* 278:34568-81. *Authors contributed equally.

Lamark, T*, Ingebrigtsen, M., Bjørnstad, C., Melkko, T., Mollnes, TE., and Nielsen, EW (2001) Expression of active human C1 inhibitor serpin domain in *Escherichia coli*. *Protein Expr Purif.* 22:349-58. *Corresponding author.

Lamark, T., Røkenes, TP., McDougall, J., and Strøm, AR (1996) The complex bet promoters of *Escherichia coli*: Regulation by oxygen (ArcA), choline (BetI) and osmotic stress. *Journal of Bacteriology.* 178:1655-62.

Røkenes, TP., **Lamark, T.**, and Strøm, AR (1996) DNA binding properties of the BetI repressor protein of *Escherichia coli*: The inducer choline stimulates BetI-DNA complex formation. *Journal of Bacteriology.* 178:1663-70.

Holmstrøm, K-O., Welin, B., Mandal, A., Kristiansdottir, I., Teeri, TH., **Lamark, T.**, Strøm, AR., and Palva, ET (**1994**) Production of the *Escherichia coli* betaine-aldehyde dehydrogenase, an enzyme required for the synthesis of the osmoprotectant glycine betaine, in transgenic plants. The Plant Journal. 6: 749-58.

Lamark. T., Styrvold, OB., and Strøm, AR (**1992**) Efflux of choline and glycine betaine from osmoregulating cells of *Escherichia coli*. FEMS Microbiological Letters. 96:149-54.

Lamark. T., Kaasen, I., Eshoo, MW., Falkenberg, P., McDougall, J., and Strøm, AR (**1991**) DNA sequence and analysis of the bet genes encoding the osmoregulatory choline-glycine betaine pathway of *Escherichia coli*. Molecular Microbiology. 5:1049-64.

2. Invited oral presentations on internationally established conferences.

- 2016 5th annual conference of the Nordic autophagy network, Keflavik, Iceland.
- 2016 Annual conference of the French autophagy network, Bordeaux, France.
- 2015 7th international symposium on Autophagy, Anhui, China.
- 2011 EMBO conference on: Autophagy in Health and disease, Jerusalem, Israel.