

Curriculum vitae

A. Personal data



Name: Igor Stagljär

Title: Professor

Nationality: Croatia and Canada

Languages: Croatian (mother tongue)
English (full professional proficiency)
German (full professional proficiency)

LinkedIn: <https://www.linkedin.com/in/igor-stagljär-1216b82>

Lab web page: <https://stagljärlab.com/>

B. Personal Statement

Dr. Igor Stagljär is a Professor in the Departments of Biochemistry and Molecular Genetics at the Donnelly Centre, University of Toronto, Canada. He is also a Co-director and Laboratory Head at the Mediterranean Institute of Life Sciences, Split, Croatia. Before being recruited to the University of Toronto in 2005, Prof. Stagljär started his career at the University of Zurich (Switzerland). He received his Ph.D. from ETH Zurich (Switzerland) under the tutelage of Professors Charles Weissmann and Markus Aebi, and completed his training in the labs of Professors Walter Schaffner and Ueli Hübscher (University of Zurich, Switzerland) and Stanley Fields (University of Washington, USA).

Professor Stagljär is one of the world leaders in the field of proteomics/chemical genomics, developing high-throughput technologies to facilitate the study of the protein-protein interactions (PPIs) of various human membrane proteins involved in cancer. He has published over 140 research papers listed on PubMed, is the holder of 8 patents, and has been honored as one of the top inventors in Canada. The research in his lab has led to the development of the Membrane Yeast Two-Hybrid [MYTH; Stagljär *et al.* (1998) *Proceedings of National Academy of Sciences*] and the Mammalian Membrane Two-Hybrid [MaMTH; Petschnigg *et al.* (2014) *Nature Methods*] technologies, both of which have revolutionized membrane proteomic research. During his entire career he has been an innovator and disruptor, and his teams' recent adaptation of MaMTH into a drug screening platform [MaMTH-DS; Saraon, Snider *et al.* (2020) *Nature Chemical Biology*] and creation of the SIMPL technology [Yao *et al.* (2020) *Nature Communications*] have the potential to dramatically improve the development of therapeutics against membrane (MaMTH-DS) and soluble (SIMPL) PPI targets. The work of Stagljär lab has led to various seminal papers in the fields of genomics, proteomics, chemical biology and cancer signaling, with publications in leading scientific journals such as *Science*, *Nature*, *Nature Methods*, *Nature Chemical Biology*, *Nature Cell Biology*, *Nature Communications*, *Molecular Cell*, *Cell Reports*, *Cell Systems*, *Proceedings of the National Academy of Sciences USA*, *Journal of Molecular Biology*, *Neuron*, *Genome Research*, *Oncogene* and *Molecular Systems Biology*.

C. Current Research and Future Interests

Professor Stagljar's lab is currently directing major proteomics/chemical genomics projects to map how integral membrane proteins interact to produce either healthy or diseased cells, to identify novel therapeutic targets, and to screen for novel drugs using artificial intelligence platforms, in particular to target lung, colon and pancreatic cancer. Notably, his group recently identified two new drugs (midostaurin and gilteritinib), suitable for potential repurposing to target EGFR-triple mutant on the surface of lung cancer cells, which are now currently the subject of prompt clinical study at The Princess Margaret Cancer Centre in Toronto, Canada and The Lung Cancer Clinic in Zagreb, Croatia. In addition, Stagljar lab is working on the further development of a novel EGFR-triple mutant inhibitor, that they named EMI1 [Saraon, Snider *et al.* (2020) *Nature Chemical Biology*, Saraon *et al.* (2021) *Journal of Molecular Biology*], which inhibits the signaling of EGFR-triple mutant lung cancer cells in a completely new way, leveraging molecular machineries to degrade mutated EGFR protein on the surface of tumor cells. They hypothesize that EMI1's complex mechanism of action will make it more difficult for lung tumors to develop resistance to it. Furthermore, Stagljar lab recently identified several potent small molecule inhibitors specific against KRAS G12V mutant and is currently analyzing these compounds in pre-clinical models of lung, colon and pancreatic cancer.

Additionally, the Stagljar lab has recently made major contributions to the fight against COVID-19. Namely, in only seven months, the Stagljar lab developed an innovative and cost-effective COVID-19 serological test named SATiN (for Serological Assay based on split Tripart Nanoluciferase). A paper describing this technology was recently published in *Nature Communications* [Yao *et al.* (2021)] and was featured in all major TV segments and news media publications in Canada and abroad. The Stagljar lab has recently further modified this split-luciferase assay so that it can be used to detect the presence and potency of neutralizing antibodies against SARS-CoV-2, including the wild-type and all major variants of concern [Kim and Yao *et al.* (2022) *in press in Nature Communications*]. These two papers on COVID-19 further demonstrate how productive and efficient the Stagljar lab is, able to respond quickly to current needs during this pandemic with innovative technology development.

D. Distinctions and Funding

Professor Stagljar is also a recipient of several prestigious distinctions for his outstanding contributions to biology including the Croatian Biological Society Plaque "Zdravko Lorkovic" – the highest accolade given by the Croatian Biological Society, and is a member of the Croatian Academy of Arts and Sciences. In 2015, the University of Toronto honored Dr. Stagljar with "Inventor of the Year" award for his contribution to Canada's innovation agenda and the advancement of knowledge. In 2022, Prof. Stagljar was elected to Royal Society of Canada and European Molecular Biology Organization (EMBO), which both recognize his excellence and outstanding achievements in biomedicine not only in Canada but also worldwide. In 2023, Prof. Stagljar was listed among Top 50 most influential people from the Adria region by Bloomberg.

As principal investigator, Dr. Stagljar secured over \$60 million in research funds since he moved to Canada (in 2005) from a range of national and international funding agencies, non-profit foundations and pharmaceutical companies, such as Orionis Biosciences, Genentech, Merck, Evotec and Novartis. Based on his academic successes, Dr. Stagljar has co-founded two companies, Dualsystems Biotech Inc. (<https://www.dualsystems.com/>), a world-leading company in the field of interactive proteomics, and a new Toronto-based biotech start-up company named Perturba Therapeutics (<https://www.perturbatx.com/>).

Science and innovation are his two greatest passions and as a member of the Editorial Board of *Molecular Systems Biology*, *Journal of Molecular Biology*, *Biochemical and Biophysical Research Communications*, and *BioTechniques*, Dr. Stagljar remains connected to innovative and leading-edge research.

E. Research Interests

- (i) Proteomics
- (ii) Protein interaction networks in health & disease
- (iii) Mechanism of action of drugs
- (iv) Artificial intelligence in drug discovery
- (v) Cell signaling
- (vi) Membrane transport
- (vii) COVID-19 serological methods

F. Positions and Honors

Positions

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|-----------|---|
| 1995-2000 | Post Doctoral Fellow, Department of Molecular Biology, University of Zurich, Switzerland |
| 2000-2001 | Oberassistent (research associate), Institute of Veterinary Biochemistry and Molecular Biology, University of Zurich, Switzerland |
| 2001-2002 | Senior Research Associate, Genome Sciences and Medicine, University of Washington, Washington, USA |
| 2002-2005 | Assistant Professor, Institute of Veterinary Biochemistry and Molecular Biology, University of Zurich, Switzerland |
| 2005-2009 | Associate Professor, Donnelly Centre, Department of Biochemistry, Department of Molecular Genetics, University of Toronto, Canada |
| 2010 - | Professor, Donnelly Centre, Department Molecular Genetics, Department of Biochemistry, University of Toronto, Canada |
| 2016 | Sabbatical at the Salk Institute for Biological Sciences, La Jolla, CA (Feb-April, 2016), working in the lab of Prof. Tony Hunter |
| 2016 | Sabbatical at the German Cancer Research Center, Heidelberg, Germany (April-May 2016), working in the lab of Prof. Jörg Hoheisel |
| 2016 | Sabbatical at the Mediterranean Institute of Life Sciences, Split, Croatia (June-Aug 2016) |
| 2023 | Sabbatical at the Institute of Molecular Systems Biology at ETH Zurich, Switzerland (Jan-July 2023) |

Editorial Boards

- 2005- Editorial Board Member, *BioTechniques*
- 2006- Editorial Board Member, *Molecular Genetics and Genomics*
- 2012- Editorial Board Member, *Journal of Molecular Biology*
- 2013- Editorial Board Member, *Biochemical and Biophysical Research Communications*
- 2014- Editorial Board Member, *Molecular Systems Biology*

G. Leadership positions

- 2002-2005 Director of the Proteomics Centre at the University of Zurich, Switzerland
- 2019- Co-director and Laboratory head at the Mediterranean Institute of Life Sciences, Split, Croatia
- 2021- Co-ordinator of the Postdoctoral Association at the Department of Biochemistry and Department of Molecular Genetics, Faculty of Medicine at the University of Toronto

Journal Reviewing

Regular:

Cell, Cell Reports, Cell Systems, Science, Nature, Nature Methods, Nature Chemical Biology, Nature Reviews Drug Discovery, Nature Biotechnology, Proteomics, Nucleic Acids Research, Genome Research, Molecular Systems Biology, Molecular and Cellular Proteomics, Journal of Proteome Research, PLoS Genetics, PLoS Pathogen, Molecular Cellular Proteomics

Occasional:

Biotechniques, EMBO Journal, Genes and Development, Nature Genetics, Proceedings of National Academy of Science, Trends in Genetics, Trends in Biochemical Sciences, Current Opinion in Molecular Biology, Proteins, ACS Chemical Biology, FASEB Journal, Expert Opinion On Therapeutic Targets, Trends in Biochemical Sciences, Drug Discovery Today, Molecular and Cellular Biology, FEBS Journal

Grant Reviewing

Swiss National Foundation (2003-present)

Welcome Trust Funds (UK) (2004, 2007, 2009, 2014, 2016)

German National Genome Research Network (NGFN) (2006, 2009, 2012, 2016)

Croatian Ministry of Science (2006-present)

European Community (2007-2011)

German Scientific Society (DFG) (2007, 2008, 2010, 2015)

Canadian Cancer Society Research Institute (2007-2010, 2016, 2017, 2018)

Humbolt Foundation Germany (2008-2011)

Danish Ministry of Science (2008-2010)

National Science Foundation USA (2008, 2012, 2015, 2016)

Flanders National Foundation Belgium (2009, 2010, 2014, 2015, 2017)

Medical Research Council UK (2009, 2011, 2013)

Chilean National Commission for Scientific and Technological Research (2010-present)

European Research Council Senior Awards (ERC) (2011-present)

Canadian Institute of Health Research (CIHR) (2011-present)

European Union Horizon 2020 “Personalized Medicine” (2015)

Canadian Cancer Society Research Institute (2015-present)

Other Selected Accomplishments and Honors

2000-2011	Co-founder, Vice President and board member of the biotech company Dualsystems Biotech Inc.
2011-	Co-founder of the biotech company Dualsystems Biotech Inc.
2003	EMBO Young Principal Investigator Award
2005	Dean’s Fund Award, University of Toronto, Canada
2006	Leaders Technology Award, Canadian Funds for Innovation (CFI), Canada
2008	Featured in the article “The world renowned Protein Interaction Experts” in <i>The Scientist</i>
2010	Selection as one of “tomorrow’s PIs” Genome Technology Magazine
2011	Featured in the 45 min radio interview in the Canadian Broadcasting Corporation (CBC)
2012	Featured in the <i>Success Story</i> article “The Scientist to Watch” in “The Canadian

Immigrant”

- 2014 National Award “Rudjer Boskovic” for the Scientific Achievements by University of Split, Croatia
- 2014 Member of the Croatian Academy of Arts and Science
- 2014 Featured in the Globe & Mail article “Scientists fear effect of changes in research funding”
- 2014 The “Croatian of the Year 2014” Award by *Vecernji List*, category Science
- 2015 The 2015 Inventor of the Year Award, University of Toronto
- 2016 Croatian Biological Society Plaque “Zdravko Lorkovic” for outstanding contributions to biology
- 2016 Hosted a visit of the President of Croatia, her Excellency Kolinda Grabar-Kitarovic to the University of Toronto
- 2019 Invitation to the state dinner with the Prime Minister of Canada Justin Trudeau, The Governor General of Canada Julie Payette and the President of Croatia, her Excellency Kolinda Grabar-Kitarovic at the Rideau Hall, Ottawa (May 13, 2019)
- 2021 Co-founder of the biotech company Perturba Therapeutix Inc., Toronto, ON, Canada
- 2021 Featured on the CBC’s The National, CityNews TV and The Globe and Mail

CBC The National:

https://www.cbc.ca/player/play/1881874499884?fbclid=IwAR1o9TAekGIM7xbdNcNZR-EgDANDBuVg-E9K_5Bmxg5AtSYhH2_hb3IKRis

CityNews TV:

https://toronto.citynews.ca/video/2021/03/25/toronto-researchers-create-firefly-method-to-measure-covid-19-immunity/?fbclid=IwAR1Edoud4L7v7mYU1A_HG5v9XKMjw5fCyGOfkdr00mjNICcXlcTZd0ddVvU

The Globe and Mail:

<https://www.theglobeandmail.com/canada/article-firefly-test-aims-to-shed-light-on-covid-19-vaccine-endurance/?fbclid=IwAR2XKSoux26p-G3Td3uQOWqAzAthJ5NuljLofY7LOVJZyQZWwYgohRVQExE>

Global News:

<https://globalnews.ca/newsletter/7861743/>

Toronto Star:

https://www.thestar.com/life/health_wellness/2021/11/17/i-wonder-if-i-had-covid-when-i-was-sick-in-january-2020-why-widespread-antibody-testing-cant-come-soon-enough-for-my-family.html?fbclid=IwAR3RFM-frL-QjCBrluTm4fASzrsCo0oyex3vdjOzFG4g9uq4A1yYE5R1gvA

2022 Featured on the CTV News, CityNews TV, Toronto Star and The Globe and Mail

CTV News:

https://www.ctvnews.ca/video?clipId=2483864&fbclid=IwAR3sj8_8eB3J-WC8UU_zsKGTG2pL1WEUCFBX_CAAQObZm4zECfSrwY7vsxjQ

CityNews TV:

https://toronto.citynews.ca/2022/07/05/covid-19-antibody-test-toronto-researchers/?fbclid=IwAR2AxlpQH3kM3UQEQwyU1Xg8AS8OAV7J6TpIMm0JwmvOi_eC2-dNw_C2LF4

Toronto Star:

https://www.thestar.com/news/canada/2022/07/10/if-you-got-covid-early-this-year-you-can-get-reinfected-now-u-of-t-study-finds.html?fbclid=IwAR054b_T2kDofueC_dC_eyMKHWv8HHZX7jCAIv-QOa1JsxXRByzUrqDLZv4

The Globe and Mail:

https://www.theglobeandmail.com/canada/article-covid-19-summer-surge-ba5-variant/?fbclid=IwAR2-C3yai6q2KWf_6yphH98Ic0gSHs_1TNrYuLibRo49j0AhDIWNiUIzOkQ#comments

2022 Election as the European Molecular Biology Organization (EMBO) Associate Member

2022 Fellow of the Royal Society of Canada (section Biomedicine)

2023 Listed among Top 50 most influential people in the Adria region by Bloomberg [https://ba.bloombergadria.com/businessweek-adria/glavna-tema/20114/igor-stagljari/news]

Awards for non-academic accomplishments

Silver medal (2nd place) at the World Junior (U-19) Handball Championship with the Yugoslavian Junior National Handball Team, Gothenburg, Sweden (1984)

Gold medal (1st place) at the European Championship (U-19) with the Yugoslav Junior National Handball Team, Copenhagen, Denmark (1985)

H. Bibliography and Patents

Publications:	143 in PubMed, 150 publications in total
H-index	60 (Google Scholar)
Cited:	11,140
i10-index	117
Invited lectures:	> 250
Patents:	8

I. Ten most important Publications (since the move to the University of Toronto in 2005)

1. Paumi, C.M., Menendez, J., Arnoldo, A., Engels, K., Iyer, K., Thaminy, S., Georgiev, O., Barral, Y., Michaelis, S., and **Stagljar, I.** (2007) Mapping Protein-Protein Interactions for the Yeast ABC Transporter Ycf1p by Integrated Split-Ubiquitin Membrane Yeast Two-Hybrid (MYTH) Analysis, *Molecular Cell* 26, 15-25.
2. Snider, J., Hanif, A., Lee, M.E., Jin, K., Yu, A.R., Chuk, M., Damjanovic, D., Graham, C., Wierzbicka, M., Tang, P., Balderes, D., Wong, V., San Luis, B-J., Shevelev, I., Sturley, S.L., Boone, C., Babu, M., Zhang, Z., Paumi, C.M., Park, H-O., Michaelis, S., and **Stagljar, I.** (2013) A global analysis of the *Saccharomyces cerevisiae* ABC transporter interaction network: towards a greater understanding of membrane transport, *Nature Chemical Biology* 9(9): 565-572.
3. Petschnigg, J., Groisman, B., Kotlyar, M., Taipale, M., Zheng, Y., Kurat, C.F., Sayad, A., J. Rafael Sierra, Mattiazzi Usaj, M., Snider, J., Nachman, A., Krykbaeva, I., Tsao, M-S., Moffat, J., Pawson, T., Lindquist, S., Jurisica, I. and **Stagljar, I.** (2014) The mammalian-membrane two-hybrid assay (MaMTH) for probing membrane-protein interactions in human cells, *Nature Methods* 11, 585-592.
4. Yao, Z., Petschnigg, J., Ketteler, R., and **Stagljar, I.** (2015) Application Guide for OMICs Approaches to Cell Signaling, *Nature Chemical Biology* 11, 387-397.
5. Yao, Z., Darowski, K., St-Denis, N., Wong, V., Offensperger, F., Villedieu, A., Amin, S., Maly, R., Aoki, H., Guo, H., Xu, Y., Iorio, C., Kotlyar, M., Emili, A., Jurisica, I., Babu, M., Neel, B.G., Gingras, A-C., and **Stagljar, I.** (2017) A global analysis of the receptor tyrosine kinase - protein phosphatase interactome, *Molecular Cell* 65, 347-360. doi: 10.1016/j.molcel.2016.12.004.
Featured on the journal cover of the January 19, 2017 issue of *Molecular Cell*.
6. Saraon, P., Snider, J., Kalaidzidis, Y., Wybenga-Groot, L., E., Weiss, K., Rai, A., Radulovich, N., Drecun, L., Vučković, N., Vučetić, A., Wong, V., Thériault, B., Nhu-An Pham, Park, J.H., Datti, A., Wang, J., Pathmanathan, S., Aboualizadeh, F., Lyakisheva, A., Yao, Z., Wang, Y., Joseph, B., Aman, A., Moran, M.F., Prakesch, M., Poda, G., Marcellus, R., Uehling, D., Samaržija, M., Jakopović, M., Tsao, M-S., Shepherd, F.A., Sacher, A., Leighl, N., Akhmanova, A., Al-awar, R., Zerial, M., and **Stagljar, I.** (2020) A drug discovery platform to identify compounds that inhibit EGFR triple mutants, *Nature Chemical Biology* 16(5): 577-586. doi: 10.1038/s41589-020-0484-2

7. Yao, Z., Aboualizadeh F., Kroll, J., Akula, I., Snider, J., Lyakisheva, A. Tang, P., Kotlyar, M., Jurisica, I., Boxem, M., and **Stagljar, I.** (2020) Split Intein Mediated Protein Ligation (SIMPL), a method for detecting protein-protein interactions and their inhibition, *Nature Communications* 2020 May 15;11(1): 2440. doi: 10.1038/s41467-020-16299-1

8. Yao, Z., Drecun, L., Aboualizadeh, F., Kim, S.J., Li, Z., Wood, H., Valcourt, E.J., Manguiat, K., Plenderleith, S., Yip, L., Li, X., Zhong, Z., Yue, F.Y., Closas, T., Snider, J., Tomic, J., Drews, S.J., Drebot, M.A., McGeer, A., Ostrowski, M., Mubareka, S., Rini, J.M., Owen, S., and **Stagljar, I.** (2021) A homogeneous split-luciferase assay for rapid and sensitive detection of anti-SARS CoV-2 antibodies, *Nature Communications* 2021 Mar 22;12(1):1806. doi: 10.1038/s41467-021-22102-6. **[Featured on the CBC's The National, CityNews TV, Global News, Toronto Star and The Globe and Mail]**

9. Lim, SH, Snider, J., Birimberg-Schwartz, L., Ip, W., Serralha, J.C., Botelho, H.M., Lopes-Pacheco, M., Pinto, M.C., Moutaoufik, M.T., Zilocchi, M., Laselva, O., Esmaeili, M., Kotlyar, M., Lyakisheva, A., Tang, P., López Vázquez, L., Akula, I., Aboualizadeh, F., Wong, V., Grozavu, I., Opacak-Bernardi, T., Yao, Z., Babu, M., Jurisica, I., Gonska, T., Bear, C.E, Amaral, M.D., **Stagljar, I.** (2022) CFTR Interactome Mapping Using the Mammalian Membrane Two-Hybrid High-Throughput Screening System, *Molecular Systems Biology* 18(2):e10629. doi: 10.15252/msb.202110629.

Featured on the journal cover of the February 2022 issue of *Molecular Systems Biology*.

10. Sun Jin Kim⁺, Zhong Yao⁺, Morgan C. Marsh, Debra M. Eckert, Michael S. Kay, Anna Lyakisheva, Maria Pasic, Aiyush Bansal, Chaim Birnboim, Prabhat Jha, Julio C. Delgado, Marc G. Elgort, Robert A. Campbell, Elizabeth A. Middleton, **Igor Stagljjar***, Shawn C. Owen* (2022) Homogeneous Surrogate Virus Neutralization Assay to Rapidly Assess Neutralization Activity of Anti-SARS-CoV-2 Antibodies, *Nature Communications* 13(1):3716 (* co-corresponding authors); DOI 10.1038/s41467-022-31300-9.

[Featured on the CTV News, CityNews TV, CP 24 News, Global News, Toronto Star and The Globe and Mail]

G. Peer-reviewed Publications

Level of Contribution Legend

SRA = Senior Responsible Author

PA = Principal Author

CSRA = Co-Senior Responsible Author

C = Collaborator

(publications as a PI are at Reference #14 and after tenure at #27)

C 1. Amberg, D. C., Fleischmann, M., **Stagljar, I.**, Cole, C. N. and Aebi, M. (1993) Nuclear PRP 20 protein is required for mRNA export. *EMBO J.* 12, 233 -241.

PA 2. **Stagljar, I.**, te Heesen, S. and Aebi, M. (1994) New phenotype of mutations deficient in glucosylation of the lipid-linked oligosaccharide: cloning of the *ALG8* locus, *Proceedings of the National Academy of Sciences of the United States of America* 91, 5977-5981.

C 3. Zufferey, R., Knauer, R., Burda, P., **Stagljar, I.**, te Heesen, S., Lehle, L. and Aebi, M. (1995) *STT3*, a highly conserved protein required for yeast oligosaccharyl transferase activity *in vivo*. *EMBO*

J. 14, 4949-4960.

PA 4. Stagljar, I., Aebi, M. and te Heesen, S. (1995) PCR-mediated cloning and sequencing of the *DmOST50* gene, a *WBP1/AvOST50/OST48* homologue, from *Drosophila melanogaster*. *Gene* 158, 209-212.

PA 5. Stagljar, I., Bourquin, J-P. and Schaffner, W. (1996) Use of the two-hybrid system and random sonicated DNA to identify the interaction domain of a protein. *Biotechniques* 21, 430-432.

C 6. Fleischmann, M., Stagljar, I. and Aebi, M. (1996) Allele-specific suppression of a *prp20* mutation with altered protein phosphorylation by overexpression of a nuclear serine/threonine protein kinase. *Molecular Genetics and Genomics* 250, 614-625.

C 7. Tanner, S., Stagljar, I., Georgiev, O., Schaffner, W. and Bourquin, J-P. (1997) A novel member of the serine-arginine domain (SR) proteins specifically interacts with the Carboxyl-terminal domain (CTD) of RNA polymerase II. *Biological Chemistry* 378, 565-571.

C 8. Bourquin, J-P., Stagljar, I., Meier, P., Moosmann, P., Silke, J., Baechi, T., Georgiev, O. and Schaffner, W. (1997) A serine/arginine-rich nuclear matrix cyclophilin interacts with the C-terminal domain of RNA polymerase II. *Nucleic Acids Research* 25, 2055-2061.

PA 9. Stagljar, I., Korostensky, C., Johnsson, N. and te Heesen, S. (1998) A new genetic system based on split-ubiquitin for the analysis of interactions between membrane proteins *in vivo*. *Proceedings of the National Academy of Sciences of the United States of America* 95, 5187-5192.

C 10. Nayler, O., Fackelmeyer, F. O., Bourquin, J-P., Stagljar, I. Lindemann, L., Renz, A., Suchanek, C., Hartmann, A. M., Jasper, H. and Stamm, T. (1998) The nuclear matrix protein SAF-b couples chromatin to RNA transcription and processing, *Nucleic Acids Research* 26, 3542-3549.

PA 11. Stagljar, I., Hübscher, U. and Barberis, A. (1999) Activation of DNA replication in yeast by recruitment of the RNA polymerase II transcription complex, *Biological Chemistry* 380, 525-530.

C 12. Stucki, M., Stagljar, I., Jonsson, Z. and Hübscher, U. (2000) A coordinated interplay: proteins with multiple functions in DNA replication, DNA repair and transcription, *Progress in Nucleic Acid Research and Molecular Biology* 65, 261-298.

PA 13. Stagljar, I. and te Heesen, S. (2000) Detecting interactions between membrane proteins *in vivo* using chimeras, *Methods in Enzymology* 327, 190-198.

SRA 14. Pedrazzi, G., Perrera, C., Blaser, H., Kuster, P., Marra, G., Freire, R., Ryu, G-H., Jiricny, J. and Stagljar, I. (2001) Direct association of Bloom's syndrome gene product with the human mismatch repair protein MLH1, *Nucleic Acids Research* 29, 4378-4386.

C 15. Freire, R., d'Adda di Fagagna, F., Wu, L., Pedrazzi, G., Stagljar, I., Hickson, I.D., and Jackson, S.P. (2001) Cleavage of the Bloom's syndrome gene product during apoptosis by caspase-3 results in an impaired interaction with topoisomerase III alpha, *Nucleic Acids Research* 29, 3172-3180.

C 16. Gisler, S., Stagljar, I., Traebert, M., Bacic, D., Biber, J., Murer, H. (2001) Interaction of the type

Ila Na-Pi-cotransporter with PDZ proteins, *Journal of Biological Chemistry* **276**, 9206-9213.

C 17. Reinders, A., Schultze, W., Thaminy, S., **Stagljär, I.**, Fromer, W.B., and Ward, J.M. (2002) Intra- and intermolecular interactions in sucrose transporters at the plasma membrane detected by the split-ubiquitin system and functional assays, *Structure* **10**, 763-772.

C 18. Scheper, W., Thaminy, S., Kais, S., **Stagljär, I.**, and Römisch, K. (2003) Coordination of N-glycosylation and protein translocation across the ER membrane in yeast by Sss1 protein, *Journal of Biological Chemistry* **278**, 37998-38003.

SRA 19. Pedrazzi, G., Bachrati, C., Selak, N., Studer, I., Hickson, I.D., Jiricny, J., and **Stagljär, I.** (2003) The Bloom's syndrome helicase directly interacts with the human mismatch protein MSH6, *Biological Chemistry*, **384**, 1155-1164.

SRA 20. Thaminy, S., Auerbach, D., Arnoldo, A., and **Stagljär, I.** (2003) Identification of novel ErbB3-interacting proteins using the split-ubiquitin membrane yeast two-hybrid technology, *Genome Research* **13**, 1744-1753.

C 21. Yang, Q., Zhang, R., Wang, X.W., Linke, S.L., Sengupta, S., Hickson, I.D., Pedrazzi, G., Perrera, C., **Stagljär, I.**, Littman, S.J., Modrich, P., and Harris, C.C. (2004) The mismatch repair heterodimer, hMSH2/6, regulates BLM helicase activity in homologous DNA recombination, *Oncogene* **23**, 3749-3756.

SRA 22. Jiao, R., Bachrati, C., Pedrazzi, G., Kuster, P., Petkovic, M., Li, J-L., Egli, D., Hickson, I.D., and **Stagljär, I.** (2004) Physical and functional interaction between the Bloom's syndrome gene product and CAF-1 hp150, the largest subunit of chromatin assembly factor 1, *Molecular & Cellular Biology* **24**, 4710-4719.

SRA 23. Iyer, K., Bürkle, L., Auerbach, D., Thaminy, S., Dinkel, M., Engels, K., and **Stagljär, I.** (2005) Utilizing the yeast split ubiquitin membrane yeast two-hybrid system (MbYTH) to identify interacting proteins of membrane proteins, *Science STKE* **275**, pl3.

C 24. Miller, J., Lo, R., Desmarais, C., **Stagljär, I.**, Noble, W., and Fields, S. (2005) An interaction network of yeast integral membrane proteins, *Proceedings of the National Academy of Sciences of the United States of America* **102**, 12123-12128.

C 25. Jovanovic, S., Du, Q., Crawford, R.M., Budas, G.R., **Stagljär, I.**, Jovanovic, A. (2005) GAPDH serves as an accessory protein of the cardiac sarcolemmal KATP channel. *EMBO Reports* **6**, 848-852.

SRA 26. Petkovic, M., Dietschy, T., Freire, R., Jiao, R., and **Stagljär, I.** (2005) The Rothmund-Thomson's syndrome gene product, RECQL4, localizes to defined nuclear foci and co-localizes with proteins involved in the maintenance of genome stability, *Journal of Cell Science* **118**, 4261-4269.

SRA 27. Paumi, C.M., Menendez, J., Arnoldo, A., Engels, K., Iyer, K., Thaminy, S., Georgiev, O., Barral, Y., Michaelis, S., and **Stagljär, I.** (2007) Mapping Protein-Protein Interactions for the Yeast ABC Transporter Ycf1p by Integrated Split-Ubiquitin Membrane Yeast Two-Hybrid (MYTH) Analysis, *Molecular Cell* **26**, 15-25.

C 28. Möckli, N., Deplazes, A., Hassa, P.O., Zhang, Z., Peter, M., Hottiger, M.O., **Stagljär, I.**, and Auerbach, D. (2007) A yeast split-ubiquitin based cytosolic screening system (cytoY2H) to detect

interactions between transcriptionally active proteins, *BioTechniques* 42, 725-729.

SRA 29. Jiao, R., Harrigan, J.A., Selak, N., Dietschy, T., Shevelev, I., Piotrowski, J., Indig, F.D., Bohr, V.A., and **Stagljär, I.** (2007) The Werner syndrome protein is required for recruitment of chromatin assembly factor 1 following DNA damage, *Oncogene* 6, 3811-3822.

C 30. Song Y., He, F., Xie, G., Guo, X., Xu, Y., Chen, Y., Liang, X., **Stagljär, I.**, Egli, D., and Jiao, R. (2007) Diverse roles of *dCAF-1-p180*, the gene that encodes the largest subunit of dCAF-1, in *Drosophila* development, *Developmental Biology* 311, 213-222.

C 31. Saydam, N., Garcia, P., Dietschy, T., Shevelev, I., **Stagljär, I.**, and Janscak, P. (2007) DNA damage-specific association of the Werner syndrome helicase with the mismatch-repair proteins, *Nucleic Acids Research* 35, 5706-5716.

SRA 32. Suter, B., Fetchko, M.J. Imhof, R., Graham, C., Stoffel-Studer, I., Zbinden, C., Raghavan, M., Benetti, L., Hort, J., Filingham, J., Greenblatt, J.F., Guri N. Giaever, G.N., Nislow, C., and **Stagljär, I.** (2007) Examining protein-protein interactions using endogenously tagged yeast arrays: the Cross-and-Capture system, *Genome Research* 17, 1774-1782.

SRA 33. Arnoldo, A., Curak, J., Kittanakom, S., Chevelev, I., Lee, V.T., Sahebol-Amri, M., Kosciak, B., Ljuma, L., Roy, P.J., Bedalov, A., Giaever, G., Nislow, C., A. Merrill, R., Lory, S., and **Stagljär, I.** (2008) Isolating small molecule inhibitors of *Pseudomonas aeruginosa* ExoS toxin using a yeast phenotypic screen, *PLoS Genetics* 4, e1000005.

SRA 34. Gisler, S.M., Kittanakom, S., Fuster, D., Radanovic, T., Wong, V., Bertic, M., Hall, R.A., Engels, K., Murer, H., Biber, J., Markovic, D., Moe, O.W., and **Stagljär, I.** (2008) Monitoring protein-protein interactions between the mammalian integral membrane transporters and PDZ-interacting partners using a modified split-ubiquitin membrane yeast two-hybrid system, *Molecular Cellular Proteomics* 7, 1362-1377.

SRA 35. Selak, N., Bachrati, C.Z., Shevelev, I., Dietschy, T., Jacob, A., Hübscher, U., Hoheisel, J.D., Hickson, I.D., and **Stagljär, I.** (2008) The Bloom's syndrome helicase (BLM) interacts physically and functionally with p12, the smallest subunit of human DNA polymerase δ , *Nucleic Acids Research* 36, 5166-5179.

SRA 36. Paumi, C.M., Chuk, M., Chevelev, I., **Stagljär, I.**,* and Michaelis, M.* (2008) Negative Regulation of the Yeast ABC Transporter Ycf1p by Phosphorylation within its N-Terminal Extension, *Journal of Biological Chemistry* 283, 27079-27088 (* co-corresponding authors).

SRA 37. Suter, B., Graham, C.I., and **Stagljär, I.** (2008) Exploring protein phosphorylation in response to DNA damage using differentially tagged yeast arrays, *BioTechniques* 45, 581-584.

C 38. Meira, M., Masson, R., **Stagljär, I.**, Lienhard, S., Maurer, F., Boulay, A., and Hynes, N.E. (2009) Memo is a novel cofilin interacting protein that influences PLCgamma and cofilin activities, and is essential for maintaining directionality during ErbB2-induced tumor cell migration, *Journal of Cell Science* 122, 787-797,

SRA 39. Dietschy, T., Shevelev, I., Mak, R., Fahad Miah, M., Hess, D., Fey, M., Janscak, P., Hottiger, M., and **Stagljär, I.** (2009) p300-mediated acetylation of the Rothmund-Thomson-syndrome gene product RECQL4 regulates its subcellular localization, *Journal of Cell Science* 122, 1258-1267.

C 40. McGee, M.D., Stagljar, I., and Starr, D.A. (2009) KDP-1 is a nuclear envelope KASH protein required for cell cycle progression, *Journal of Cell Science* 122, 2895-2905.

SRA 41. Deribe Y.L., Wild P, Chandrashaker A., Curak J., Schmidt M.H.H., Kalaidzidis Y., Milutinovic N., Kratchmarova I., Buerkle L., Fetchko M.J., Schmidt P., Kittanakom S., Brown K.R., Jurisica I., Blagoev B., Zerial M., **Stagljar I.***, Dikic I.* (2009) Regulation of EGF receptor endocytosis by histone deacetylase HDAC6, *Science Signalling* 2 (102):ra84. doi: 10.1126/scisignal.2000576 (*co-corresponding authors).

Featured as a Research Highlight:

March 2010 issue of *Nature Chemical Biology* 6, p171, written by Mirella Bucci

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C41. Jin, J., Kittanakom, S., Wong, V., Reyes, B.A., Van Bockstaele, E.J., Stagljjar, I., Berrettini, W., Levenson, R. (2010) Interaction of the mu-opioid receptor with GPR177 (Wntless) inhibits Wnt secretion: potential implications for opioid dependence, *BMC Neuroscience* 11, 33-48.

C 42. Gfeller, D., Butty, F., Wierzbicka, M., Verschueren, E., Vanhee, E., Huang, H., Ernst, A., Dar, N., **Stagljar, I.**, Serrano, L., Sidhu, S.S., Bader, G.D., and Kim, P.M. (2011) The multiple specificity landscape of modular protein domains, *Molecular Systems Biology* 7, 484-493.

C 43. Lee, M.E., Singh, K., Snider, J., Shenoy, A., Paumi, C.A., **Stagljar, I.**, and Park, H-O. (2011) The Rho1 GTPase in budding yeast is involved in cellular response to oxidative stress, *Genetics* 188 (4) 859-870.

C 44. Usenovic, M., Knight, A. L., Raj, A., Wong, V., Brown, K. R., Caldwell, G. A., Caldwell, K. A., **Stagljar, I.**, Krainc, D. (2012) Identification of novel ATP13A2 interactors and their role in α -synuclein misfolding and toxicity, *Human Molecular Genetics* 21, 3785-3794.

C 45. Babu, M., Vlasblom, J., Pu, S., Guo, X., Graham, C., Hnatshak, O., Phanse, S., Bajaj, N., Fong, V., Chandran, S., Punna, T., Bean, B.D.M., Davey, M., Snider, J., Wong, V., Christopolous, C., Zhong, G., Li, J., Vizeacoumar, F., **Stagljar, I.**, Conibear, E. *, Wodak, S.J. *, Emili, A. *, and Greenblatt, J.F.* (2012) Interaction Landscape of Membrane Protein Complexes in *Saccharomyces cerevisiae*, *Nature* 489, 585-589 (* co-corresponding authors).

SRA 46. Mak, A.B., Stewart, J.M., Kittanakom, S., Chen, G.I., Curak, J., Gingras, A-C., Mazitschek, R., Neel, B.G., **Stagljar, I.**, and Moffat, J.* (2012) Association of CD133, HDAC6 and b-catenin promotes transcription of TCF/LEF target genes and suppresses differentiation in cancer cells, *Cell Reports* 2(4), 951-63.

C 47. Gandía, J., Fernández-Dueñas, V., Morató, X., Caltabiano, G., González-Muñiz, R., Pardo, L., **Stagljar, I.**, and Ciruela, F. (2013) The Parkinson's Disease-Associated Gpr37 Receptor-Mediated Cytotoxicity Is Controlled By Its Intracellular Cysteine-Rich Domain, *Journal of Neurochemistry* 125 (3), 362-372. doi: 10.1111/jnc.12196

C 48. Xie, L., Gao, S., Alcaire, S., Wang, Y., **Stagljar, I.**, and Zhen, M. (2013) NLF-1 Regulates Neuronal Excitability through a Conserved Sodium Leak Channel, *Neuron* 77,1069-1082.

SRA 49. Snider, J., Hanif, A., Lee, M.E., Jin, K., Yu, A.R., Chuk, M., Damjanovic, D., Graham, C., Wierzbicka, M., Tang, P., Balderes, D., Wong, V., San Luis, B-J., Shevelev, I., Sturley, S.L., Boone, C., Babu, M., Zhang, Z., Paumi, C.M., Park, H-O., Michaelis, S., and **Stagljar, I.** (2013) A global analysis of the *Saccharomyces cerevisiae* ABC transporter interaction network: towards a greater understanding of membrane transport, *Nature Chemical Biology* 9(9): 565-572.

Featured in News & Views article by Monk B.C. (2013) Transporters: A yeast ABC interactome primer, *Nat Chem Bio* 9, 531-533.

C 50. Huang, X., Dai, F.F., Gaisano, G., Giglou, K., Han, J., Zhang, M., Kittanakom, S., Wong, V., Wei, L., Showalter, A.D., Sloop, K.W., **Stagljar, I.**, and Wheeler, M.B. (2013) The Identification of Novel Proteins that Interact with the GLP-1 Receptor and Restrain its Activity, *Molecular Endocrinology* 27(9), 1550-1563.

C 51. Petko, J., Justice-Bitner, S., Jin, J., Wong, V., Kittanakom, S., Ferraro, T.N., **Stagljar, I.** and Levenson, R. (2013) MOR is Not Enough: Identification of Novel mu-Opioid Receptor Interacting Proteins Using Traditional and Modified Membrane Yeast Two- Hybrid Screens, *PLoS One* 8(6), e67608.

SRA 52. Petschnigg, J., Groisman, B., Kotlyar, M., Taipale, M., Zheng, Y., Kurat, C.F., Sayad, A., J. Rafael Sierra, Mattiazzi Usaj, M., Snider, J., Nachman, A., Krykbaeva, I., Tsao, M-S., Moffat, J., Pawson, T., Lindquist, S., Jurisica, I. and **Stagljar, I.** (2014) The mammalian-membrane two-hybrid assay (MaMTH) for probing membrane-protein interactions in human cells, *Nature Methods* 11, 585-592.

Featured in the Research Highlight article by Finkelstein J.M. (2014) Just the two of us, *Nat Chem Bio* 10, 325 (2014) doi:10.1038/nchembio.1513

SRA 53. Kittanakom, S., Barrios-Rodiles, M., Petschnigg, J., Arnoldo, A., Wong, V., Kotlyar, M., Hesler, L., Jurisica, I., Wranna, J.L., Nislow, C., and **Stagljar, I.** (2014) CHIP-MYTH: A novel interactive proteomics method for the assessment of agonist-dependent interactions of the human β 2-adrenergic receptor, *Biochemical and Biophysical Research Communications*, 445, 746-756.

C 54. Kutscheidt, S., Zhu, R., Antoku, S., Luxton, G.W.G., **Stagljar, I.**, Fackler, O., and Gundersen, G. (2014) FHOD1 interaction with nesprin-2G mediates TAN line formation and nuclear movement, *Nature Cell Biology* 16, 708-715.

C 55. Kotlyar, M., Pastrello, C., Pivetta, F., Lo Sardo, A., Cumbaa, C., Li, H., Naranian, T., Niu, Y., Ding, Z., Vafaei, V., Broackes-Carter, F., Jurisicova, A., Mills, G., **Stagljar, I.**, Maestro, R., and Jurisica, I. (2015) Comprehensive In Silico Prediction of Physical Protein Interactions and Characterization of Interactome Orphans, *Nature Methods* 12, 79-84.

C 56. Bean, B.D.M, Davey, M., Snider, J., Jessulat, M., Deineke, V., Tinney, M., **Stagljar, I.**, Babu, Conibear, E. (2015) Rab5-family guanine nucleotide exchange factors bind retromer and promote its recruitment to endosomes, *Molecular Biology of the Cell* 26, 1119-28.

SRA 57. Lam, M.H.Y, Snider, J., Rehal, M., Wong, V., Aboualizadeh, F., Drecun, L., Wong, O., Jubran, B., Li, M., Ali, M., Jessulat, M., Deineko, V., Miller, R., Lee, M., Park, H-O., Davidson, A., Babu, M., and **Stagljar, I.** (2015) A Comprehensive Membrane Interactome Mapping of Sho1p Reveals Fps1p as a Novel Key Player in the Regulation of the HOG Pathway in *S. cerevisiae*, *Journal of Molecular Biology* 427, 2088-2103.

C 58. Lopes JP, Morató X, Souza C, Pinhal C, Machado NJ, Canas PM, Silva HB, **Stagljar I**, Gandía J, Fernández-Dueñas V, Luján R, Cunha RA, Ciruela F. (2015) The role of Parkinson's disease-associated receptor GPR37 in the hippocampus: functional interplay with the adenosinergic system, *Journal of Neurochemistry* 134, 135-146.

C 59. Gandía J, Morató X, **Stagljar I**, Fernández-Dueñas V, Ciruela F. (2015) Adenosine A2A receptor-mediated control of pilocarpine-induced tremulous jaw movements is Parkinson's disease-associated GPR37 receptor-dependent, *Behavioral Brain Research* 288, 103-6.

C 60. Gulati, S., Balderes, D., Kim, C., Guo, Z.A, Wilcox, L., Gomez, E-A., Snider, J., Wolinski, H., **Stagljar, I.**, Granato, J.T., Ruggles, K.V., DiGeorgis, J.A., Kohlwein. S.D, Schon, E.A., and Sturley, S.L. (2015) ABC-transporters and sterol O-acyltransferases interact at membrane microdomains to modulate sterol uptake and esterification, *FASEB Journal* 29, 4682-4694.

C 61. Sharma, P., Abbasi, C., Bousette, N., Lazic, S., Dubois, N., Ignatchenko, A., Ignatchenko, V., Teng, A.C.T., Wilson, A., Noronha, M., Wong, W., Liu, J., Araki, T., Liu, J., Tiburcy, M., Zimmermann, W.H, Ackerley, C., Hamilton, R., Sun, Y., Liu, P.P, Backx, P.H., Keller, G., **Stagljar, I.**, Scott, I.C., Kislinger, T., and Gramolini, A.O. (2015) Tmem65 is an Evolutionary Conserved Membrane Protein that Regulates Connexin43 Function, *Nature Communication* 6, 8391. doi: 10.1038/ncomms9391.

C 62. Benleulmi-Chaachoua, A., Chen, L., Sokolina, K., Wong, V., Jurisica, I., Emerit, M.B., Darmon, M., Espin, A., **Stagljar, I.**, Tafelmeyer, P., Zamponi, G.W., Delagrangé, P., Maurice P., Jockers, R. (2015) Protein interactome mining defines melatonin MT1 receptors as integral component of presynaptic protein complexes of neurons, *Journal of Pineal Research* 60, 95-108. doi: 10.1111/jpi.12294.

C 63. Ebersole B, Petko J, Woll M, Murakami S, Sokolina K, Wong V, **Stagljar, I.**, Lüscher, B., and Levenson, R. (2015) Effect of C-Terminal S-Palmitoylation on D2 Dopamine Receptor Trafficking and Stability. *PLoS ONE* 10, e0140661.

C 64. Santiago, E., Akamine P., Snider, J., Wong, V., Jessulat, M., Deineko, V., Gagarinova, A., Aoki, H., Minic, Z., Phanse, S., San Antonio, A., Cubano, L., Rymond, B.C., Babu, M., **Stagljar, I.**, Rodriguez-Medina, J.R. (2016) Novel Interactome of *Saccharomyces cerevisiae* Myosin Type II Identified by a Modified Integrated Membrane Yeast Two-Hybrid (iMYTH) Screen, *G3 (Bethesda)* 6 (5), 1469-1474.

C 65. Bicket, A., Mehrabi, P., Naydenova, Z., Wong, V., Donaldson, L., **Stagljar, I.** and Coe, I. (2016) Novel regulation of Equilibrative Nucleoside Transporter 1 (ENT1) by receptor-stimulated Ca²⁺-dependent calmodulin binding, *American Journal of Physiology - Cell Physiology* 310, C808-20.

C 66. Yachie, Y., Mellor, J., Verby, M., Ozturk, S., Li, S., Petsalaki, E., Cote, A., Mosca, R., Liu, Y-C., Knapp, J., Ko, M., Yu, A., Gebbia, M., Sahni, N., Yi, S., Tyagi, T., Sheykhkarimli, D., Roth, J., Musa, L., Snider, J., Yu, H., Braun, P., **Stagljar, I.**, Hao, T., Calderwood, M., Pelletier, L., Aloy, P., Hill, D., Vidal, M., Roth, F. (2016) Barcode Fusion Genetics extends next-generation sequencing to combinatorial library screens, *Molecular Systems Biology* 12, 863.

C 67. Costanzo, M., VanderSluis, B., Koch, E.N., Baryshnikova, A., Pons, C., Tan, G., Wang, W., Usaj, M., Hanchard, J., Lee, S.D., Pelechano, V., Styles, E.B., Billmann, M., van Leeuwen, J., van Dyk, N., Lin, Z-Y., Kuzmin, E., Nelson, J., Piotrowski, J.S., Srikumar, T., Bahr, S., Chen, Y., Deshpande, R., Kurat, C.F., Li, S.C., Li, Z., Mattiazzi Usaj, M., Okada, H., Pascoe, N., San Luis, B-J.,

Sharifpoor, S., Shuteriqi, E., Simpkins, S.W., Snider, J., Suresh, H.G., Tan, Y., Zhu, H., Malod-Dognin, N., Janjic, V., Przulj, N., Troyanskaya, O.G., **Stagljar, I.**, Xia, T., Ohya, Y., Gingras, A-C., Raught, B., Boutros, M., Steinmetz, L.M., Claire L. Moore C.L., Rosebrock, A.P., Caudy, A.A., Myers, C.L., Andrews, B.J., and Boone, C. (2016) A global genetic interaction network maps a wiring diagram of cellular function, *Science*, 2016 Sep 23;353 (6306). pii: aaf1420.

SRA 68. Yao, Z., Darowski, K., St-Denis, N., Wong, V., Offensperger, F., Villedieu, A., Amin, S., Maly, R., Aoki, H., Guo, H., Xu, Y., Iorio, C., Kotlyar, M., Emili, A., Jurisica, I., Babu, M., Neel, B.G., Gingras, A-C., and **Stagljar, I.** (2017) A global analysis of the receptor tyrosine kinase – protein phosphatase interactome, *Molecular Cell* 65, 347-360. doi: 10.1016/j.molcel.2016.12.004.

Featured on the journal cover of the January 19, 2017 issue of *Molecular Cell*.

C 69. Petschnigg, J., Kotlyar, M., Blair, L., Jurisica, I., **Stagljar, I.**, and Robin Ketteler, R. (2017) Systematic Identification of Oncogenic EGFR Interaction Partners, *Journal of Molecular Biology* 429, 280-294. doi: 10.1016/j.jmb.2016.12.006.

C 70. Rial, D., Morató, X., Real, J.I., Gonçalves, F.Q., **Stagljar, I.**, Pereira, F.C., Fernández-Dueñas, V., Cunha, R.A., Ciruela, F. (2017) Parkinson's disease-associated GPR37 receptor regulates cocaine-mediated synaptic depression in corticostriatal synapses, *Neuroscience Letters* 638,162-166. doi: 10.1016/j.neulet.2016.12.040.

SRA 71. Sokolina, K., Kittanakom, S., Snider, J., Kotlyar, M., Maurice, P., Gandía, J., Benleulmi-Chaachoua, A., Tadagaki, K., Oishi, A., Wong, V., Reyes, B.A., Brown, K.R., Kobayashi, H., Menendez, J., Auerbach, D., Angers, A., Bouvier, M., Ciruela, F., Jockers, R., Jurisica, I., and **Stagljar, I.** (2017) Systematic protein-protein interaction mapping for clinically-relevant human GPCRs, *Molecular Systems Biology* 13, 918. doi: 10.15252/msb.20167430.

Featured on the journal cover of the March 2017 issue of *Molecular Systems Biology*.

C 72. Rizzolo, K., Huen, J., Ashwani Kumar, A., Phanse, S., Vlasblom, J., Kakihara, Y., Zeineddine, H., Minic, Z., Snider, J., Costanzo, M., Myers, C.L., Wang, W., Pos, C., **Stagljar, I.**, Boone, C., Babu, M., and Houry, W.A. (2017) Novel features of the chaperone cellular network revealed through systematic interaction mapping, *Cell Reports* 20 (11): 2735-2748. doi: 10.1016/j.celrep.2017.08.074

C 73. Morató, X., Luján, R., López-Cano, M., Gandía, J., **Stagljar, I.**, Watanabe, M., Cunha, R.A., Fernández-Dueñas, V., Ciruela, F. (2017) The Parkinson's disease-associated GPR37 receptor interacts with striatal adenosine A2A receptor controlling its cell surface expression and function in vivo. *Scientific Reports* 7, 9452. doi: 10.1038/s41598-017-10147-x.

C 74. Trimpert, C., Wesche, D., de Groot, T., Pimentel Rodriguez, M.M., Wong, W., van den Berg, D.T.M., Cheval, L., Ariza, C.A., Doucet, A., **Stagljar, I.**, and Deen, P.M.T (2017) NDFIP allows NEDD4/NEDD4L-induced AQP2 ubiquitination and degradation. *PLoS One* 12 (9): e0183774. doi: 10.1371/journal.pone.0183774.

C 75. Rizzolo, K., Kumar, A., Kakihara, Y., Phanse, S., Minic, Z., Snider, J., **Stagljar, I.**, Zilles, S., Babu, M., Houry, W.A. (2018) Systems Analysis of the Genetic Interaction Network of Yeast Molecular Chaperones. *Molecular Omics* 14 (2):82-94. doi: 10.1039/C7MO00142H.

- C76.** Kmiec, D., Akbii, B., Trautz, B., Hotter, D., Sparrer, K., Weber, C., Wildum, S., Heigele, A., Ayoub, A., Peeters, M., **Stagljar, I.**, Sauter, D., Fackler, O.T., and Kirchhoff, F. (2018) SIVcol Nef counteracts vertebrate SERINC5 proteins by a distinct mechanism but does not enhance HIV-1 replication in human CD4+ T cells and lymphoid tissue, *PLoS Pathogen* 14(8):e1007269. doi: 10.1371/journal.ppat.1007269.
- C77.** Benleulmi-Chaachoua, A., Hegron, A., Le Boulc, M., Karamitri, A., Wierzbicka, M., Wong, V., **Stagljar, I.**, Delagrangé, P., Ahmad, R., and Jockers, R. (2018) Melatonin receptors limit dopamine re-uptake in the striatum by regulating dopamine transporter cell surface exposure, *Cellular and Molecular Life Sciences* 75(23):4357-4370. doi: 10.1007/s00018-018-2876-y.
- C78.** Santiago-Cartagena, E., González, S., Velez, V., Martínez, N., Snider, J., Jessulat, M., Hiroyuki Aoki, H., Minic, Z., Akamine, P., Mejías, I., Pérez, L.M., Rymond, B.C., Babu, M., **Stagljar, I.**, and Rodríguez-Medina, J.R. (2019) Identification and functional testing of Wsc1 and Mid2 protein-protein interactions in yeast for discovery of novel stress signaling complexes, G3 (Bethesda). 2019 Feb 7. pii: g3.200985.2018. doi: 10.1534/g3.118.200985.
- C80.** Ichikawa, D., Corbi, C., Shen, M., Snider, J., Wong, V., **Stagljar, I.**, Kim, P., and Noyes, M. (2019) A multi-reporter bacterial 2-hybrid assay for the high-throughput and dynamic assay of PDZ domain – peptide interactions, *ACS Synthetic Biology* 8(5), 918-928. doi: 10.1021/acssynbio.8b00499.
- C81.** Celaj, A., Gebbia, M., Musa, L., Cote, A.G., Snider, J., Wong, V., Ko, M., Fong, T., Bansal, P., Mellor, J.C., Seesankar, G., Nguyen, M., Zhou, S., Wang, L., Kishore, N., Mani, R., **Stagljar, I.**, Suzuki, Y., Yachie, N., and Roth, F.P. (2020) Dissecting Complex Multi-Drug Resistance Traits with High-Order Genetic Analysis, *Cell Systems* 10 (1), 25-38.e10. PMID 31668799
- C82.** Kennedy, S., Jarboui, M-A., Srihari, S., Raso, C., Bryan, K., Dernayka, L., Charitou, T., Bernal-Llinares, M., Herrera-Montavez, C., Krstic, A., Matallanas, D., Kotlyar, M., Jurisica, I., Curak, J., Wong, V., **Stagljar, I.**, LeBihan, T., Imre, L., Pilla, P., Lynn, M.A., FASTERIUS, E., Al-Khalili Szigartyo, C., Kiel, C., Serrano, L., Rauch, N., Pilkington, R., Cammareri, P., Sansom, O., Shave, S., Auer, M., Horn, N., Klose, F., Ueffing, M., Boldt, K., Lynn, D.J., and Kolch, W. (2020) Adaptive rewiring of protein-protein interactions and signal flow in the EGFR signaling network by mutant RAS, *Nature Communication* 11 (1) 499, PMID 31980649.
- SRA 83.** Lee, S-H., Hadipour-Lakmehsari, S., Murthy, H.R., Gibb, N., Miyake, T., Teng, A.C.T., Cosme, J., Yu, J.C., Moon, M., Wong, V., Liu, P., Billia, F., Fernandez-Gonzalez, R., **Stagljar, I.**, Sharma, P., Kislinger, T., Scott, I.C., Gramolini, A.O. (2020) REEP5 depletion causes sarco(endo)plasmic reticulum vacuolization and cardiac functional defects, *Nature Communications* 11 (1) 569, PMID 32075961.
- SRA 84.** Saraon, P., Snider, J., Kalaidzidis, Y., Wybenga-Groot, L., E., Weiss, K., Rai, A., Radulovich, N., Drecun, L., Vučković, N., Vučetić, A., Wong, V., Thériault, B., Nhu-An Pham, Park, J.H., Datti, A., Wang, J., Pathmanathan, S., Aboualizadeh, F., Lyakisheva, A., Yao, Z., Wang, Y., Joseph, B., Aman, A., Moran, M.F., Prakesch, M., Poda, G., Marcellus, R., Uehling, D., Samaržija, M., Jakopović, M., Tsao, M-S., Shepherd, F.A., Sacher, A., Leighl, N., Akhmanova, A., Al-awar, R., Zerial, M., and **Stagljar, I.** (2020) A drug discovery platform to identify compounds that inhibit EGFR triple mutants, *Nature Chemical Biology* 16(5): 577-586. doi: 10.1038/s41589-020-0484-2
- SRA 85.** Yao Z, Aboualizadeh F., Kroll, J., Akula, I., Snider, J., Lyakisheva, A. Tang, P., Kotlyar, M., Jurisica, I., Boxem, M., and **Stagljar, I.** (2020) Split Intein Mediated Protein Ligation (SIMPL), a method

for detecting protein-protein interactions and their inhibition, *Nature Communications* 2020 May 15;11(1): 2440. doi: 10.1038/s41467-020-16299-1

C 86. Vélez-Segarra V, González-Crespo S, Santiago-Cartagena E, Vázquez-Quiñones LE, Martínez-Matías N, Otero Y, Zayas JJ, Siaca R, Del Rosario J, Mejías I, Aponte JA, Collazo NC, Lasso FJ, Snider J, Jessulat M, Aoki H, Rymond BC, Babu M, **Stagljar I**, Rodríguez-Medina JR. (2020) Protein Interactions of the Mechanosensory Proteins Wsc2 and Wsc3 for Stress Resistance in *Saccharomyces cerevisiae*, G3 (Bethesda). 2020 Jul 8: g3.401468.2020.

C 87. Min Jeong Kim, Daniella Febbraro, Yoo Jin Park, Taylor Gillmore, Joe Eun Son, Tharini Sivasubramaniam, Evan Pollock-Tahiri, Romario Regeenes, Huntley H. Chang, Punit Saraon, **Igor Stagljar**, Jonathan V. Rocheleau, Chi-Chung Hui, Isabella Caniggia, Zhenyue Hao, Tak W. Mak and Minna Woo (2021) Essential in vivo role of skeletal muscle UVRAG in muscle function and mitochondrial dynamics through EGFR signaling, *Molecular Metabolism* 47:101185. doi: 10.1016/j.molmet.2021.101185.

SRA 88. Yao, Z., Drecun, L., Aboualizadeh, F., Kim, S.J., Li, Z., Wood, H., Valcourt, E.J., Manguiat, K., Plenderleith, S., Yip, L., Li, X., Zhong, Z., Yue, F.Y., Closas, T., Snider, J., Tomic, J., Drews, S.J., Drebot, M.A., McGeer, A., Ostrowski, M., Mubareka, S., Rini, J.M., Owen, S., and **Stagljar, I.** (2021) A homogeneous split-luciferase assay for rapid and sensitive detection of anti-SARS CoV-2 antibodies, *Nature Communications* 2021 Mar 22;12(1):1806. doi: 10.1038/s41467-021-22102-6.

Featured on the CBC's The National, CityNews TV, Global News TV, Toronto Star and The Globe and Mail

C89. Martínez-Matías N, Chorna N, González-Crespo S, Villanueva L, Montes-Rodríguez I, Melendez-Aponte LM, Roche-Lima A, Carrasquillo-Carrión K, Santiago-Cartagena E, Rymond BC, Babu M, **Stagljar I**, Rodríguez-Medina JR. (2021) Toward the discovery of biological functions associated with the mechanosensor Mtl1p of *Saccharomyces cerevisiae* via integrative multi-OMICs analysis, *Scientific Reports* 11(1):7411. doi: 10.1038/s41598-021-86671-8.

SRA 90. Aboualizadeh F, Yao Z, Guan J, Drecun L, Pathmanathan S, Snider J, Umapathy G, Kotlyar M, Jurisica I, Palmer R, **Stagljar I.** (2021) Mapping the phospho-dependent ALK interactome to identify novel components in ALK signaling, *Journal of Molecular Biology* 433(23):167283. doi: 10.1016/j.jmb.2021.167283. Epub 2021 Oct 1.

SRA 91. Saraon P, Snider J, Schormann W, Rai A, Radulovich N, Sánchez-Osuna M, Coulombe-Huntington J, Huard C, Mohammed M, Lima-Fernandes E, Thériault B, Halabelian L, Chan M, Joshi D, Drecun L, Yao Z, Pathmanathan S, Wong V, Lyakisheva A, Aboualizadeh F, Niu L, Li F, Kiyota T, Subramanian R, Joseph B, Aman A, Prakesch M, Isaac M, Mamai A, Poda G, Vedadi M, Marcellus R, Uehling D, Leighl N, Sacher A, Samaržija M, Jakopović M, Arrowsmith C, Tyers M, Tsao MS, Andrews D, Al-Awar R, **Stagljar I.** (2021) Chemical genetics screen identifies COPB2 tool compounds that alters ER stress response and induces RTK dysregulation in lung cancer cells, *Journal of Molecular Biology* 433(23):167294. doi: 10.1016/j.jmb.2021.167294. Epub 2021 Oct 16.

SRA 92. Grozavu, I., Stuart, S., Lyakisheva, A., Yao, Z., Pathmanathan, S., Ohh, M., and **Stagljar, I.** (2022) D154Q mutation does not alter KRAS dimerization, *Journal of Molecular Biology* 434(2):167392.

SRA 93. Lim, SH, Snider, J., Birimberg-Schwartz, L., Ip, W., Serralha, J.C., Botelho, H.M., Lopes-Pacheco, M., Pinto, M.C., Moutaoufik, M.T., Zilocchi, M., Laselva, O., Esmaili, M., Kotlyar, M., Lyakisheva, A., Tang, P., López Vázquez, L., Akula, I., Aboualizadeh, F., Wong, V., Grozavu, I., Opacak-Bernardi, T., Yao, Z., Babu, M., Jurisica, I., Gonska, T., Bear, C.E, Amaral, M.D., **Stagljar, I.** (2022) CFTR Interactome Mapping Using the Mammalian Membrane Two-Hybrid High-Throughput Screening System, *Molecular Systems Biology* 18(2):e10629. doi: 10.15252/msb.202110629. **Featured on the journal cover of the February 2022 issue of *Molecular Systems Biology*.**

C94. Stern YE, Al-Ghabkari A, Monast A, Fiset B, Aboualizadeh F, Yao Z, **Stagljar I**, Walsh LA, Duhamel S, Park M. (2022) Met-HER3 crosstalk supports proliferation via MPZL3 in MET-amplified cancer cells, 79(3):178. doi: 10.1007/s00018-022-04149-w.

SRA 95. Sun Jin Kim⁺, Zhong Yao⁺, Morgan C. Marsh, Debra M. Eckert, Michael S. Kay, Anna Lyakisheva, Maria Pasic, Aiyush Bansal, Chaim Birnboim, Prabhat Jha, ulio C. Delgado, Marc G. Elgort, Robert A. Campbell, Elizabeth A. Middleton, **Igor Stagljjar***, Shawn C. Owen* (2022) Homogeneous Surrogate Virus Neutralization Assay to Rapidly Assess Neutralization Activity of Anti-SARS-CoV-2 Antibodies, *Nature Communications* 13(1):3716 (* co-corresponding authors); DOI 10.1038/s41467-022-31300-9.

Featured on the CTV News, CityNews TV, CP 24 News, Global News, Toronto Star and The Globe and Mail

C96. Harrington S, Knox JJ, Burns AR, Choo KL, Au A, Kitner M, Haeberli C, Pyche J, D'Amata C, Kim YH, Volpatti JR, Guillian M, Snider J, Wong V, Palmeira BM, Redman EM, Vaidya AS, Gilleard JS, **Stagljar, I.**, Cutler SR, Kulke D, Dowling JJ, Yip CM, Keiser J, Zasada I, Lautens M, Roy PJ. (2022) Egg-laying and locomotory screens with *C. elegans* yield a nematode-selective small molecule stimulator of neurotransmitter release, *Communication Biology* 5 (1): 865. doi: 10.1038/s42003-022-03819-6.

SRA 97. Shivanthy Pathmanathan, Zhong Yao, Paula Coelho, Robert Valla, Luka Drecun, Caroline Benz, Jamie Snider, Punit Saraon, Ingrid Grozavu, Max Kotlyar, Igor Jurisica, Morag Park and **Igor Stagljjar** (2022) B cell linker protein (BLNK) is a novel regulator of Met receptor signaling and trafficking in non-small cell lung cancer, *iScience* 25 (11):105419.

SRA 98. Yao Z, Geng B, Marcon E, Pu S, Tang H, Merluza J, Bello A, Snider J, Lu P, Wood H, **Stagljar I.** (2023) Omicron Spike Protein Is Vulnerable to Reduction, *Journal of Molecular Biology*, Apr 24;168128. doi: 10.1016/j.jmb.2023.168128. Online ahead of print.

C 99. Burns AR, Baker RJ, Kitner M, Knox J, Cooke B, Volpatti JR, Vaidya AS, Puumala E, Palmeira BM, Redman EM, Snider J, Marwah S, Chung SW, MacDonald MH, Tiefenbach J, Hu C, Xiao Q, Finney CAM, Krause HM, MacParland SA, **Stagljar I**, Gilleard JS, Cowen LE, Meyer SLF, Cutler SR, Dowling JJ, Lautens M, Zasada I, Roy PJ. (2023) Selective Control of Parasitic Nematodes Using Bioactivated Nematicides, *Nature* 618(7963):102-109.

C100. Hammond N, Snider J, **Stagljar I**, Mitchell K, Lagutin K, Jessulat M, Babu M, Teesdale-Spittle PH, Sheridan JP, Sturley SL, Munkacsy AB. (2023) Identification and Characterization of Protein Interactions with the Major Niemann-Pick Type C Disease Protein in Yeast Reveals Pathways of Therapeutic Potential, *Genetics*, Jul 13;iyad129. doi: 10.1093/genetics/iyad129.

C101. Phadnis VV, Snider J, Varadharajan V, Ramachandiran I, Deik AA, Lai ZW, Kunchok T, Eaton EN, Sebastiany C, Lyakisheva A, Vaccaro KD, Allen J, Yao Z, Wong V, Geng B, Weiskopf K, Clish CB, Brown JM, **Stagljar I**, Weinberg RA, Henry WS. (2023) MMD collaborates with ACSL4 and MBOAT7 to promote polyunsaturated phosphatidylinositol remodeling and susceptibility to ferroptosis, *Cell Reports* 42(9): 113023.

Refereed Reviews

Level of Contribution for Reviews

P = Primary contributor

E = Equal contributor

C = Contributed some sections of review

C 1. Stucki, M., Stagljjar, I., Jonsson, Z. and Hübscher, U. (2000) A coordinated interplay: proteins with multiple functions in DNA replication, DNA repair and transcription, *Prog. Nucleic Acid Res. Mol. Biol.* 65, 261-298.

P 2. Auerbach, D., Thaminy, S., Hottiger, M.O. and Stagljjar, I. (2002) The post-genomic era of interactive proteomics: facts and perspectives, *Proteomics* **2**, 611-623.

P 3. Stagljjar, I. and Fields, S. (2002) Analysis of membrane protein interactions using yeast-based technologies, *Trends Biochem Sci* **27**, 559-563.

P 4. Fetchko, M.J., Auerbach, D., and Stagljjar, I. (2003) Yeast genetic methods for the detection of membrane protein interactions: potential use in drug discovery, *BioDrugs* 17, 413-424.

P 5. Auerbach, D., Fetchko, M..J., and Stagljjar, I. (2003) Proteomics approaches for generation of comprehensive protein interaction maps, *Targets Drug Discovery Today* 2, 85-92.

P 6. Fetchko, M. and Stagljjar, I. (2004) Application of the split-ubiquitin membrane yeast two-hybrid system to investigate membrane protein interactions, *Methods* 32, 349-362.

P 7. Auerbach, D., Arnoldo, A., Bogdan, B., and Stagljjar, I. (2005) Yeast-based Proteomics Technologies for Drug Discovery, *Current Proteomics* 2, 1-13.

P 8. Uetz, P. & Stagljjar, I. (2006) The interactome of human EGF/ErbB receptors. *Molecular Systems Biology* **2**, 2006.0006, doi:10.1038/msb4100048.

P 9. Suter, B., Auerbach, D., and Stagljjar, I. (2006) Yeast-based functional genomics and proteomics technologies: the first 15 years and beyond, *BioTechniques* 40, 625-644.

P 10. Dietschy, T., Shevelev, I., and Stagljjar, I. (2007) The molecular role of the Rothmund-Thomson, RAPADILINO and Gerhard-Bälller gene product, RECQL4: a recent progress. *Cellular and Molecular Life Sciences* 64, 796-802.

P 11. Suter, B., Kittanakom, S., and Stagljjar, I. (2008) Interactive Proteomics: what lies ahead, *BioTechniques* 44, 681-691.

- P 12.** Suter, B., Kittanakom, S., and Stagljjar, I. (2008) Two-hybrid technologies in proteomics research, *Current Opinion in Biotechnology* 9, 316-323.
- P 13.** Curak, J., Rohde, J.R., and Stagljjar, I. (2009) Using the baker's yeast *Saccharomyces cerevisiae* to study bacterial effector proteins, *Current Opinion in Microbiology* 12, 18-23.
- P 14.** Paumi, C., Chuk, M., Snider, J., Stagljjar, I.*, and Michaelis, S.* (2009) Yeast ABC transporters and their Interactors: New Technology Advances Yeast MRP (ABCC) Biology, *Microbiology and Molecular Biology Reviews* 73, 577-593. (* co-corresponding author).
- P 15.** Snider J., Kittanakom S., Curak J., and Stagljjar I. (2010) Split-ubiquitin based membrane yeast two-hybrid (MYTH) system: a powerful tool for identifying protein-protein interactions. *Journal of Visualized Experiments* (36). pii: 1698.
- P 16.** Snider J., Kittanakom S., Damjanovic D., Curak J., Wong V., and Stagljjar I. (2010) Detecting interactions with membrane proteins using a membrane two-hybrid assay in yeast. *Nature Protocols* 5, 1281-1293.
- P 17.** Petschnigg J., Snider J., and **Stagljjar I.** (2011) Interactive proteomics research technologies: recent applications and advances. *Current Opinion in Biotechnology* 22, 50-58.
- P 18.** Petschnigg J., Moe O., and **Stagljjar I.** (2011) Using yeast as a model to study membrane proteins, *Current Opinion in Nephrology and Hypertension* 20 (4), 425-432.
- P 19.** Lam, M.H.Y. and **Stagljjar, I.** (2012) Strategies for membrane interaction proteomics: no mass spectrometry required, *Proteomics* 12, 1519-1526.
- P 20.** **Stagljjar, I.** (2012) Editorial for "advances in protein-protein interactions", *Methods*, 2012 Aug; 57(4):399.
- P 21.** **Stagljjar I.** (2014) Editorial for "Advances in OMICs-based disciplines", *Biochemical and Biophysical Research Communications* 445, 681-682.
- P 22.** Yao, Z., Petschnigg, J., Ketteler, R., and **Stagljjar, I.** (2015) Application Guide for OMICs Approaches to Cell Signaling, *Nature Chemical Biology* 11, 387-397.
- E 23.** Ostankovich, M., and Stagljjar, I. (2015) OMICs Approaches Deciphering Molecular Function in Large Biological Systems, *Journal of Molecular Biology* 427, 3351-3355.
- P 24.** Snider, J., Kotlyar, M., Saraon, P., Yao, Z., Jurisica, I., and **Stagljjar, I.** (2015) Fundamentals of protein interaction mapping, *Molecular Systems Biology* 11, 848
- P 25.** Snider J. and **Stagljjar I.** (2016) Membrane Yeast Two-Hybrid (MYTH) Mapping of Full-Length Membrane Protein Interactions, *Cold Spring Harbor Protocols* 2016 (1): doi: 10.1101/pdb.top077560.
- P 26.** Snider J. and **Stagljjar I.** (2016) MYTH Screening: iMYTH and tMYTH Variants, *Cold Spring Harbor Protocols* 2016 (1): doi: 10.1101/pdb.prot087825.
- P 27.** Snider J. and **Stagljjar I.** (2016) Generation and Validation of MYTH Baits: iMYTH and tMYTH Variants, *Cold Spring Harbor Protocols* 2016(1): doi: 10.1101/pdb.prot087817.

- P 28. Stagljar, I.** (2016) The power of OMICs, *Biochemical and Biophysical Research Communications*, 2016 Sep 20. pii: S0006-291X(16)31562-5. doi: 10.1016/j.bbrc.2016.09.095.
- P 29.** Saraon, P., Grozavu, I., Lim, S.H., Snider, J., Yao, Z., and **Stagljar, I.** (2017) Detecting membrane protein-protein interactions using the Mammalian Membrane Two-Hybrid (MaMTH) assay, *Current Protocols in Chemical Biology* 2, 38-54. doi: 10.1002/cpch.15.
- P 30.** Yao, Z. and **Stagljar, I.** (2017) Multiple Functions of Protein Phosphatases in Receptor Tyrosine Kinase Signalling Revealed by Interactome Analysis, *Molecular and Cellular Oncology* 26;4(3):e1297101. doi: 10.1080/23723556.2017.1297101.
- P 31.** Lim, S.H., Legere, E-A., Snider, J., and **Stagljar, I.** (2018) Recent progress in CFTR interactome mapping and its importance for Cystic Fibrosis, *Frontiers in Pharmacology* 8:997. doi: 10.3389/fphar.2017.00997.
- P 32.** Saraon, P., Grozavu, I., and **Stagljar, I.** (2018) Testing cancer inhibitors at scale, *Nature Biomedical Engineering* 2, 203–204. doi: 10.1038/s41551-018-0226-x
- P 33.** Saraon, P., Pathmanathan, S., Snider, J., Lyakisheva, A., Wong, V., and **Stagljar, I.** (2021) Receptor tyrosine kinases and cancer: oncogenic mechanisms and therapeutic approaches, *Oncogene* 40(24):4079-4093. doi: 10.1038/s41388-021-01841-2.
- P.34.** Pathmanathan, S., Grozavu, I., Lyakisheva, A., and **Stagljar, I.** (2021) Drugging the undruggable proteins in cancer: a systems biology approach, *Current Opinion in Chemical Biology* 2021 Aug 20;S1367-5931(21)00101-0. doi: 10.1016/j.cbpa.2021.07.004.
- P.35. Stagljar, I.** (2022) The first 90 years of Ernesto Carafoli, *Biochemical Biophysical Research Communications* 633, 3-5. doi: 10.1016/j.bbrc.2022.09.085.

Proceedings and Book Chapters

- E 29.** Stagljar, I. and te Heesen, S. (2000) Detecting interactions between membrane proteins *in vivo* using chimeras, *Methods in Enzymology* 327, 190-198.
- P 30.** Stagljar, I. (2006) Membrane-anchored protein complexes, in Encyclopedia of Genetics, Genomics, Proteomics and Bioinformatics. John Wiley and Sons Ltd. UK. Jorde, L.B., Peter F. R. Little, P.F.R., Michael J. Dunn, M.J. & and Subramaniam, S. (eds), 2063-2073.
- P 31.** Stagljar, I. (2007) Protein interaction analysis: variations of the yeast two-hybrid system, in Encyclopedic Reference of Genomics and Proteomics in Molecular Medicine. Springer, Berlin Heidelberg New York. Ganten, D & Ruckpaul, K (eds).
- E 32.** Kittanakom, S., Chuk, M., Wong, V., Snider, J., Edmonds, D., Lydakakis, A., Zhang, Z., Auerbach, D., and Stagljar, I. (2009) Analysis of Membrane Protein Complexes Using the Split-Ubiquitin Membrane Yeast Two-Hybrid (MYTH) System, *Methods in Molecular Biology* 548, 247-271.
- E 33.** Petschnigg J, Wong V, Snider J, **Stagljar I.** (2012) Investigation of membrane protein interactions using the split-ubiquitin membrane yeast two-hybrid system, *Methods in Molecular Biology* 812, 225-244.

J. PATENTS

1. [Method and kit for detecting membrane protein-protein interactions](#)

Publication number: 20050106636

Abstract: The present invention is concerned with a method and a kit for detecting an interaction between a first membrane bound test protein or fragment thereof and a second test protein or fragment thereof which is either membrane bound or soluble with an in vivo genetic system based in yeast, bacterial or mammalian cells. The system makes use of the reconstitution of the split ubiquitin protein.

Type: grant

Filed: March 28, 2003

Publication date: May 19, 2005

Inventors: Igor Stagljjar, Michael Hottiger, Daniel Auerbach

2. [Method and kit for detecting membrane protein-protein interactions](#)

Patent number: 9435055

Abstract: The present invention is concerned with a method and a kit for detecting an interaction between a first membrane bound test protein or fragment thereof and a second test protein or fragment thereof which is either membrane bound or soluble with an in vivo genetic system based in yeast, bacterial or mammalian cells. The system makes use of the reconstitution of the split ubiquitin protein.

Type: Grant

Filed: March 28, 2003

Date of Patent: September 6, 2016

Assignee: Hybrigenics Services S.A.S.

Inventors: Igor Stagljjar, Michael Hottiger, Daniel Auerbach

3. [Methods and compositions for inhibiting mutant EGFR signaling](#)

Publication number: 20190091205

Abstract: Methods of inhibiting mutant EGFR and methods of treating a subject afflicted with a lung cancer having a mutant EGFR, having for example a C797 mutation, are described. The methods comprise administering to a cell or a subject in need thereof a therapeutically effective amount of a compound selected from 3-(1,3-benzoxazol-2-yl)-7-(diethylamino)-2H-chromen-2-one and a structurally related analog thereof; midostaurin; and AZD7622 and a structurally related analog thereof; and mixtures thereof. Compositions and combinations comprising the compounds of the disclosure as well as uses are also provided.

Type: grant

Filed: September 28, 2018

Publication date: March 28, 2019

Inventors: Igor Stagljari, Jamie Snider, Punit Saraon

4. [Detection of protein to protein interactions](#)

Publication number: 20160124000

Abstract: The present invention relates to methods and kits for detecting the interaction between a first membrane protein and a second protein in mammalian cells as well as to identify molecules that can disrupt protein to protein interactions. The invention relies on the functional reconstitution of an active human ubiquitin by two inactive fragments upon the interaction of two proteins attached through a linker to the inactive fragments. The reconstituted ubiquitin is then cleaved by human ubiquitin proteases resulting in the release of an artificial transcription factor, which in turn activates a reporter gene transcription. Activation of the reporter gene is indicative of the interaction between the two proteins.

Type: grant

Filed: June 10, 2014

Publication date: May 5, 2016

Inventors: Igor STAGLJAR, Julia PETSCHNIGG, Bella GROISMAN

5. [Detection of protein to protein interactions](#)

Patent number: 9958461

Abstract: The present invention relates to methods and kits for detecting the interaction between a first membrane protein and a second protein in mammalian cells as well as to identify molecules that can disrupt protein to protein interactions. The invention relies on the functional reconstitution of an active human ubiquitin by two inactive fragments upon the interaction of two proteins attached through a linker to the inactive fragments. The reconstituted ubiquitin is then cleaved by human ubiquitin proteases resulting in the release of an artificial transcription factor, which in turn activates a reporter gene transcription. Activation of the reporter gene is indicative of the interaction between the two proteins.

Type: grant

Filed: June 10, 2014

Date of Patent: May 1, 2018

Assignee: THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO

Inventors: Igor Stagljjar, Julia Petschnigg, Bella Groisman

6. [Detection of protein to protein interactions: new split intein-based method for detecting protein-protein interactions](#)

Patent number: 0180354.0066

Abstract: A system and method for detecting interactions between a first protein or fragment thereof (bait protein) and a second protein or fragment thereof (prey protein) comprising: (a) a bait construct comprising the bait protein, a first epitope tag and an intein N-terminal fragment (IN); and (b) a prey construct comprising the prey protein, a second epitope tag, and an intein C-terminal fragment (IC).

Type: pending

International Filing Date: June 30, 2020

Assignee: THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO

Inventors: Igor Stagljjar and Zhong Yao

7. [System and method for rapid and sensitive detection of anti-pathogen antibodies](#)

Patent number: PCT/CA2021/051733

Type: pending

Assignee: THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO

Inventors: Igor Stagljjar and Zhong Yao

8. [Neutralization Assay to Rapidly Assess Neutralization Activity of Anti-SARS-CoV-2 Antibodies](#)

Disclosure reference: 10004321

Type: pending (entered on 26-04-2022)

Assignee: THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO

Inventors: Sun Jin Kim, Shawn Owen, Igor Stagljär and Zhong Yao

K. Invited Presentations (Oral) at Meetings and Symposia (last six years)

1. 12th Annual International Bellairs Conference “The Cell Biology Of Disease”, Jan 29-Feb 6, 2016, Holetown, Barbados
2. EMBO Conference “Cellular Signaling and Cancer Therapy”, May 27-31, 2016, Cavtat, Croatia
3. 8th International Conference “From Solid State to Biophysics VIII - From Basic to Life Sciences”, June 5-12, 2016, Cavtat, Croatia
4. 15th Human Proteome Organization (HUPO) 2016 World Congress (*HUPO 2016*), September 18-22, 2016, Taipei, Taiwan (Igor Stagljär was the keynote speaker)
5. International Conference organized by the EU Scientific Council “Oncogenic EGFR Signaling”, Palma de Mallorca, Spain, October 1-5, 2016
6. The University of Ulm Fall Meeting “Advances in Molecular Biology”, Ulm, Germany, October 12-14, 2016
7. 13th International Conference on “Cell and Systems Biology of Disease”, Holetown, Barbados, January 13-19, 2017
8. International Conference “Advances in Biomedical Research”, July 3-7, 2017, Split, Croatia (Igor Stagljär was one of the co-organizers of this conference)
9. International conference “Transporters and channels in drug discovery and preclinical development”, August 6-10, 2017, Lausanne, Switzerland
10. 6th International Cancer Therapeutics & Partnering Summit, September 28-29, 2017, San Diego, CA, USA
11. 14th International Conference “Cell and Systems Biology of Disease”, January 20-26, 2017, Holetown, Barbados
12. International Symposium “Commercialization in science”, March 8, 2018, Zagreb, Croatia (Igor Stagljär was a keynote speaker)
13. EMBL Conference “Integrating Systems Biology: From Networks to Mechanisms to Models”, April 15-17, 2018, Heidelberg, Germany
14. 9th International Conference “From Solid State to Biophysics IX - From Basic to Life Sciences”, June 16-23, 2018, Cavtat, Croatia
15. EMBO Conference “Cellular Signaling and Cancer Therapy”, Cavtat, Croatia, September 14-18,

2018

16. International Conference 17th Ruzicka days – Today science, tomorrow Industry”, Vukovar, Croatia, September 19-21, 2018 (Igor Stagljär will be a plenary speaker)
17. 3th Croatian Biological Society Congress, Poreč, Croatia, September 19-23, 2018 (Igor Stagljär will be a plenary speaker)
18. Human Proteome Organization (HUPO) conference, Orlando, FL, USA, September 30-October 3, 2018 (Igor Stagljär was the chairman of the “Systems Biology” session)
19. 15th International Conference “Cell and Systems Biology of Disease”, January 20-26, 2019, Holetown, Barbados
20. International Conference “Success stories in science”, March 28-30, 2019, Poreč, Croatia
21. International Conference “Advances in Biomedical Research III”, Split, Croatia, June 17-21, 2019
22. 10th Congress of the Croatian Thoracic Society “Toraks 2020”, Zagreb, Croatia, May 2020
23. EMBO Conference “Systems approaches in cancer”, September 21-26, 2021 Split, Croatia
24. International Conference “Advances in Biomedical Research IV”, Split, Croatia, October 4-9, 2021
25. Life Science LS2 Swiss Biomedical Society, Zurich, Switzerland, April 20-22, 2022
26. Gordon Research Conference “FGF Signaling: Understanding Function and Devising Therapeutic Tools”, May 1-6, 2022, Lucca, Italy
27. TransCure Final Conference “Excellence in Transmembrane Protein Research”, Aug 17-19, 2022, Berne, Switzerland
<https://www.nccr-transcure.ch/events/final-conference>
28. EMBO New Members Symposium, October 26-28, 2022, Heidelberg, Germany
<https://www.embo.org/press-releases/embo-elects-67-new-members-and-associate-members/>
29. International conference “Women Who are Changing Science - Driving Bold Research in Canada and Croatia” symposium, Zagreb and Split, Croatia, September 12-14, 2022
<https://wis.medils.hr/>
30. CCC-TRIO 2023 New Frontiers in Translational Oncology & Immuno-Oncology, April 27-28, 2023, Vienna, Austria
[https://www.meduniwien.ac.at/web/fileadmin/content/kommunikation/events/2023/04/CCC Trio 2023 /Einladung_CCC Trio 2023_Web_LV5.pdf](https://www.meduniwien.ac.at/web/fileadmin/content/kommunikation/events/2023/04/CCC_Trio_2023/Einladung_CCC_Trio_2023_Web_LV5.pdf)
31. 14th Annual CNPN Symposium (CNPN 2023), May 15 – 17, 2023, University of Regina, Saskatchewan (I was a keynote speaker)
<https://cnpn.ca/wp-cnpn/wp-content/uploads/2023/02/Preliminary-Program-for-Web-2023-02-02.pdf>
32. 13th Congress of the Croatian Thoracic Society “Toraks 2023”, Zagreb, Croatia, May 2023
<https://web.penta-pco.com/toraks2023/en/teme/>

33. EMBO Conference “Systems approaches in cancer”, June 26-30, 2023 Split, Croatia
<https://meetings.embo.org/event/23-sys-approaches-cancer>

34. International Conference “Advances in Biomedical Research V”, Split, Croatia, September 15-19, 2023
<https://conference.medils.hr/>

L. Organization of Meetings and Symposia

1. International Conference “Functional Genomics in Medicine”, Split, Croatia, June 2-8, 2007
2. Keystone Conference “OMICs meets cell biology: applications to health and disease”, Taos, NM, USA, Feb 18-23, 2014
3. International Conference “Molecular Perspectives on Protein-Protein Interactions”, Pillar and Post Inn, Niagara-on-the-lake, Ontario, Canada, May 29 – June 2, 2015
4. International Conference “OMICs in Biomedical Research”, Split, Croatia, June 8-12, 2015
5. International Conference “From Solid State to Biophysics VIII - From Basic to Life Sciences”, June 5-12, 2016, Cavtat, Croatia
6. International BBRC Symposium “Trends in Molecular Biology”, October 7-8, 2016, Toronto, Canada,
7. International Conference “Advances in Biomedical Research II”, Split, Croatia, July 3-7, 2017
8. International Conference “From Solid State to Biophysics IX - From Basic to Life Sciences”, June 16-23, 2018, Cavtat, Croatia
9. International Conference “Advances in Biomedical Research III”, Split, Croatia, June 17-21, 2019
10. EMBO Conference “Systems approaches in cancer”, September 21-26, 2021 Split, Croatia
11. International Conference “Advances in Biomedical Research IV”, Split, Croatia, October 4-9, 2021
12. International conference “Women Who are Changing Science - Driving Bold Research in Canada and Croatia” symposium, Zagreb and Split, Croatia, September 12-14, 2022
13. EMBO Conference “Systems approaches in cancer”, June 26-30, 2023 Split, Croatia
14. International Conference “Advances in Biomedical Research V”, Split, Croatia, September 15-19, 2023
<https://conference.medils.hr/>

L. Invited Lectures (last seven years)

1. University of California San Diego, Skaggs School of Pharmacy, La Jolla, CA, USA, March 2016
2. The Salk Institute, La Jolla, CA, USA, March 2016
3. The Scripps Institute, La Jolla, CA, USA, March 2016
4. Genomics Institute of the Novartis Research Foundation, La Jolla, CA, March 2016
5. Janssen Pharmaceutical, La Jolla, CA, March 2016
6. Novartis Pharma, Basel, Switzerland, April 2016
7. University of Zurich, Department of Molecular Mechanisms of Disease, Zurich, Switzerland, April 2016
8. European Molecular Biology Laboratory (EMBL), Heidelberg, Germany, May 2016
9. University of Frankfurt, Department of Biochemistry, Frankfurt, Germany, May 2016
10. University of Zagreb, Department of Molecular Biology, Zagreb, Croatia, May 2016
11. Touro University, The School of Medicine, Las Vegas, NV, USA, November 2016
12. University Health Network (UHN), Princess Margaret Cancer Centre Seminar Series, Toronto, Canada, November 2016
13. University of Zagreb School of Medicine, Department of Pharmacology Zagreb, Croatia, December 2016
14. Memorial Sloan Kettering Cancer Center, The Molecular Pharmacology & Chemical Biology Programs Research Seminar Series, New York, NY, USA, March 2017
15. University of Montreal, Department of Immunology, April 2017
16. New York University, Department of Chemistry, New York, NY, USA, November 2017
17. University of Zagreb School of Medicine, Department of Pharmacology, Zagreb, Croatia, December 2017
18. University of California Riverside School of Medicine, Division of Biomedical Sciences, Riverside, CA, USA, February 2018
19. Genentech, San Francisco, CA, February 2018
20. Novartis, Cancer Therapeutics group, Basel, Switzerland, April 2018
21. University of Utrecht, Cancer Stem Cells & Developmental Biology, Utrecht, The Netherlands, September 2018.

22. University of Puerto Rico, Comprehensive Cancer Centre, San Juan, Puerto Rico, November 2018
23. McGill University, Goodman Cancer Centre, Montreal, QC, Canada, November 2018
24. University of Zagreb School of Medicine, Zagreb, Croatia, December 2018
25. Novartis Institutes for Biomedical Research, Cambridge, MA, USA, May 2019
26. University of Graz, Department of Genetics, Austria, July 2019
27. University of Ljubljana, Department of Biotechnology, July 2019
28. University of Zurich, Department of Pathology, July 2019
29. Max Delbrück Center for Medical Research, Humbolt Foundation, Berlin, September 2019
30. ETH Zurich, Department of Biochemistry, September 2019
31. Mount Sinai Hospital, The Tisch Cancer Institute, New York, NY, USA, October 2019
32. University College Dublin, Conway Institute of Biomolecular & Biomedical Research, December 2019
33. The University of Southwestern Medical Center, O'Brien Cancer Center, Dallas, TX, January 2020
34. The San Juan Cancer Centre, San Juan, Puerto Rico, March 2020
35. University of Split, Medical School, Split, Croatia, October 2021
36. University of Ponce Medical School, Ponce, Puerto Rico, February 2022
37. University of San Juan, School of Medicine, San Juan, Puerto Rico, February 2022
38. Swiss Federal School of Technology EPFL Lausanne, AGORA Cancer Centre, April 2022
39. University of Split, Medical School, Split, Croatia, October 2022
40. European Molecular Biology Organization (EMBO), inauguration talk (EMBO member), Heidelberg, Germany, October 2022
41. Department of Molecular and Cell Biology, University of Geneva, Switzerland, February 2023
42. Novartis Pharma, Basel, Switzerland, March 2023
43. Paul Scherrer Institute, Department of Biology, Villigen, Switzerland, March 2023
44. University of Bern, Department of Chemistry, Biochemistry and Pharmaceutical Sciences, April 2023

45. Institute for Research in Biomedicine, Bellinzona, Switzerland, June 2023

M. Research Grant Support

As principal investigator, I secured over US\$55 million in research funds from a range of national and international funding agencies, non-profit foundations and pharmaceutical companies, such as Orionis Biosciences, Novartis, Genentech, Merck, Evotec and Novartis.

N. Mentorship/Supervision

During his career Professor Stagljar has trained more than 25 graduate students and 15 postdoctoral fellows. Many of them are now having executive roles in pharmaceutical companies and some of them have successful careers in the academia. Below are the names and current positions of some of my previous lab members.

Dr. Tobias Dietschy received PhD in my lab 2007 – he is the Owner & Sales Director at LubioScience GmbH in Zurich, Switzerland.

Dr. Bernhard Suter worked as a postdoc in my lab from 2006-2008. He is the founder and CEO of Next Interactions (San Francisco-based biotech that employs 400 people).

Dr. Uros Petrovic worked as a postdoc in my lab from 2010-2011. He is an Associate Professor at the University of Ljubljana, Slovenia.

Dr. Saranya Kittanakom-Arnoldo worked as a postdoc in my lab from 2007-2010. She is a Clinical Biochemist at the London Health Sciences Centre, an Assistant Professor at the department of Pathology and Laboratory Medicine, Western University (London, ON, Canada), and a fellow of the Canadian Academy of Clinical Biochemistry.

Dr. Jasna Curak received PhD in my lab in 2010. She is the Global Compliance and External Collaboration Manager at Roche, Toronto, Canada

Dr. Julia Petschnigg worked as a postdoc in my lab from 2009-2014. She is the Lecturer (Assistant Professor) at the University of Munich, Germany.

Dr. Kate Sokolina received PhD in my lab in 2016. She is a senior consultant at Calico (Google's biotech company).

Dr. Punit Saraon worked as a postdoc in my lab from 2014-2019. He is a Research Scientist (group leader) at the Ontario Institute for Cancer Research (OICR) in Toronto, Canada.

Dr. SangHyun Lim received PhD in my lab in 2021 He is now a postdoctoral fellow at Genentech (Roche group) in South San Francisco, USA.