113 Sox-Based Sensor Publications (2007-Present)

AssayQuant is continually creating new sensors. For the current best sensor for your target of interest, see www.assayquant.com

Part I - Customer Publications (102 Total)

2021:

1. Chaim Gilon, Michal Klazas, Adi Lahiani, Adi Schumacher-Klinger, Shira Merzbach, Johnny N. Naoum, Haim Ovadia, Limor Rubin, Susan Cornell-Kennon, Erik M. Schaefer, Jehoshua Katzhendler, Cezary Marcinkiewicz, Amnon Hoffman, Philip Lazarovici (2021) Synthesis and pharmacological characterization of Visabron, a backbone cyclic peptide dual antagonist of 41 (VLA-4)/ 91 integrin for therapy of multiple sclerosis. JACS, in press. **NTRK1 (TRKA)/ NTRK2 (TRKB) (Tyr). AQT104.**
2. Nicole Bata, Apirat Chaikuad, Nicole A Bakas, Allison S Limpert, Lester J Lambert, Douglas J Sheffler, Lena M Berger, Guoxiong Liu, Cunxiang Yuan, Li Wang, Yi Peng, Jing Dong, Maria Celeridad, Fabiana Layng, Stefan Knapp, Nicholas D P Cosford (2021) Inhibitors of the Hippo Pathway Kinases STK3/MST2 and STK4/MST1 Have Utility for the Treatment of Acute Myeloid Leukemia. J Med Chem. Nov 22. doi: 10.1021/acs.jmedchem.1c00804. Online ahead of print. https://pubmed.ncbi.nlm.nih.gov/34807584/ **STK3/4 (Ser/Thr). AQT0135.**
3. Quambusch, L., Depta, L., Landel, I., Lubeck, M., Kirschner, T., Nabert, J., Uhlenbrock, N., Weisner, J., Kostka, M., Levy, L. M., Schultz-Fademrecht, C., Glanemann, F., Althoff, K., Müller, M. P., Siveke, J. T., & Rauh, D. (2021). Cellular model system to dissect the isoform-selectivity of Akt inhibitors. *Nature communications*, *12*(1), 5297. https://pubmed.ncbi.nlm.nih.gov/34489430/ **Akt (Ser/Thr). AQT0535.**
4. Maier, N. K., Ma, J., Lampson, M. A., & Cheeseman, I. M. (2021). Separase cleaves the kinetochore protein Meikin at the meiosis I/II transition. *Developmental cell*, *56*(15), 2192–2206.e8. https://pubmed.ncbi.nlm.nih.gov/34331869/ **Plk1 (Ser/Thr). AQT0691.**
5. Ghazanfari, D., Noori, M. S., Bergmeier, S. C., Hines, J. V., McCall, K. D., & Goetz, D. J. (2021). A novel GSK-3 inhibitor binds to GSK-3β via a reversible, time and Cys-199-dependent mechanism. *Bioorganic & medicinal chemistry*, *40*, 116179. https://pubmed.ncbi.nlm.nih.gov/33991821/ **GSK-3 (Ser/Thr). AQT157.**
6. Khurana, P., McWilliams, L., Wingfield, J., Barratt, D., & Srinivasan, B. (2021). A Novel High-Throughput FLIPR Tetra-Based Method for Capturing Highly Confluent Kinetic Data for Structure-Kinetic Relationship Guided Early Drug Discovery. *SLAS discovery : advancing life sciences R & D*, *26*(5), 684 697. https://pubmed.ncbi.nlm.nih.gov/33783249/ **REVIEW. Multiple kinases, names not disclosed. AQT0099.**
7. Singh, R. K., Soliman, A., Guaitoli, G., Störmer, E., von Zweydorf, F., Dal Maso, T., ... & Versées, W. (2021). Nanobodies as allosteric modulators of Parkinson' s disease-associated LRRK2. BioRxiv. https://www.biorxiv.org/content/biorxiv/early/2021/08/30/2021.08.30.458082.full.pdf **LRRK2 (Ser/Thr). AQT0615.**
8. Shi, G., Robles, J. T., Song, C., Salichos, L., Lou, H. J., Gerstein, M., & Turk, B. E. (2021). Proteome-wide screening for mitogen-activated protein kinase docking motifs and interactors. BioRxiv. https://www.biorxiv.org/content/10.1101/2021.08.20.457142v1.full **p38 and JNK MAP kinases (Ser/Thr). AQT0376.**

2020:

9. Liclican, A., Serafini, L., Xing, W., Czerwieniec, G., Steiner, B., Wang, T., ... & Feng, J. Y. (2020). Biochemical characterization of tirabrutinib and other irreversible inhibitors of Bruton's tyrosine kinase reveals differences in on-and off-target inhibition. Biochimica et Biophysica Acta (BBA)-General Subjects, 1864(4), 129531. https://pubmed.ncbi.nlm.nih.gov/32874496/ **BTK (Tyr). AQT0101, 104.**

10. Casey, G. R., & Stains, C. I. (2020). A fluorescent probe for monitoring PTP-PEST enzymatic activity. Analyst, 145(20), 6713-6718. https://pubmed.ncbi.nlm.nih.gov/32812952/ **Phosphatase non-receptor type 12 (PTPN12 or PTP-PEST).**
11. Casey, G. R., Beck, J. R., & Stains, C. I. (2019). Design and synthesis of fluorescent activity probes for protein phosphatases. Methods in enzymology, 622, 29-53. https://pubmed.ncbi.nlm.nih.gov/31155057/
12. Lahiani, A., Haham-Geula, D., Lankri, D., Cornell-Kennon, S., Schaefer, E. M., Tsvelikhovsky, D., & Lazarovici, P. (2020). Neurotropic activity and safety of methylene-cycloalkylacetate (MCA) derivative 3-(3-allyl-2-methylenecyclohexyl) propanoic acid. ACS chemical neuroscience, 11(17), 2577-2589. https://pubmed.ncbi.nlm.nih.gov/32667774/ **Multiple kinases (Ser/Thr & Tyr). Multiple AQT sensors.**
13. Zhai X, Ward R, Doig P, Argyrou A (2020) Insight into the Therapeutic Selectivity of the Irreversible EGFR Tyrosine Kinase Inhibitor Osimertinib through Enzyme Kinetic Studies. Biochemistry 59(14):1428-1441. https://pubmed.ncbi.nlm.nih.gov/32207968/ **EGFR (Tyr) wild-type & oncogenic mutants, Covalent Inhibitors. AQT0099.**

2019:

14. Broughton K, Korski K, Echeagaray O, Adamson R, Dembitsky W, Lu Z, Schaefer E, Sussman MA. (2019) Safety profiling of genetically engineered Pim-1 kinase overexpression for oncogenicity risk in human c-kit+ cardiac interstitial cells. Gene Ther. 26(7-8):324-337. https://www.ncbi.nlm.nih.gov/pubmed/31239537 **AKT1-3, CDK1/3-6, CK1, ERK1/2, JNK1-3, p38a/b/g/d, PIM1, SGK1-3 (Ser/Thr). Multiple AQT sensors.**
15. Bonner, M. K., Haase, J., Swinderman, J., Halas, H., Miller Jenkins, L. M., & Kelly, A. E. (2019). Enrichment of Aurora B kinase at the inner kinetochore controls outer kinetochore assembly. Journal of Cell Biology, 218(10), 3237-3257. https://pubmed.ncbi.nlm.nih.gov/31527147/ **Aurora B (Ser/Thr). AQT0186.**
16. Casey GR, Stains CI. (2018). Interrogating Protein Phosphatases with Chemical Activity Probes. Chemistry. 24(31):7810-7824. https://www.ncbi.nlm.nih.gov/pubmed/29338103 **REVIEW. Phosphatases.**

2018:

17. Antenucci L, Hytönen VP, Ylänne J. (2018) Phosphorylated immunoreceptor tyrosine-based activation motifs and integrin cytoplasmic domains activate spleen tyrosine kinase via distinct mechanisms. J Biol Chem. 293(13):4591-4602. https://www.ncbi.nlm.nih.gov/pubmed/29440271 **Syk (Tyr). AQTY7.**

2017:

18. Reytor González ML, Cornell-Kennon S, Schaefer E, Kuzmič P (2017). An algebraic model to determine substrate kinetic parameters by global nonlinear fit of progress curves. Anal Biochem. 518:16-24. https://www.ncbi.nlm.nih.gov/pubmed/27823930 **EGFR (Tyr). AQT0001.**
19. Beck JR, Harris EN, Stains CI (2017) Quantification of Cell Signaling Networks Using Kinase Activity Chemosensors. Methods Mol Biol. 1636:61-70. https://www.ncbi.nlm.nih.gov/pubmed/28730472 **REVIEW.**
20. Cann ML, McDonald IM, East MP, Johnson GL, Graves LM. (2017) Measuring Kinase Activity-A Global Challenge. J Cell Biochem. 118(11):3595-3606. **REVIEW.**
21. Cuozzo JW, Centrella PA, Gikunju D, Habeshian S, Hupp CD, Keefe AD, Sigel EA, Soutter HH, Thomson HA, Zhang Y, Clark MA. (2017). Discovery of a Potent BTK Inhibitor with a Novel Binding Mode by Using Parallel Selections with a DNA-Encoded Chemical Library. Chembiochem. 18(9):864-871. https://www.ncbi.nlm.nih.gov/pubmed/28056160 **BTK (Tyr).**
22. Planken S, Behenna DC, Nair SK, Johnson TO, Nagata A, Almaden C, Bailey S, Ballard TE, Bernier L, Cheng H, Cho-Schultz S, Dalvie D, Deal JG, Dinh DM, Edwards MP, Ferre RA, Gajiwala KS, Hemkens M, Kania RS, Kath JC, Matthews J, Murray BW, Niessen S, Orr ST, Pairish M, Sach NW, Shen H, Shi M, Solowiej J, Tran K, Tseng E, Vicini P, Wang Y, Weinrich SL, Zhou R, Zientek M, Liu L1, Luo Y1, Xin S1, Zhang C1, Lafontaine J.

(2017) Discovery of N-((3R,4R)-4-Fluoro-1-(6-((3-methoxy-1-methyl-1H-pyrazol-4-yl)amino)-9-methyl-9H-purin-2-yl)pyrrolidine-3-yl)acrylamide (PF-06747775) through Structure-Based Drug Design: A High Affinity Irreversible Inhibitor Targeting Oncogenic EGFR Mutants with Selectivity over Wild-Type EGFR. J Med Chem. 60(7):3002-3019. https://www.ncbi.nlm.nih.gov/pubmed/28287730 **EGFR (Tyr) wild-type & oncogenic mutants: exon 19 deletion (Del), L858R, and double mutants T790M/L858R and T790M/Del), Covalent Inhibitors.**

2016:

23. Victor Muleya, Claudius Marondedze, Janet I. Wheeler, Ludivine Thomas, Yee-Fong Mok, Michael D.W. Griffin, David T. Manallack, Lusisizwe Kwezi, Kathryn S. Lilley, Christoph Gehring, and Helen R. Irving (2016). Phosphorylation of the dimeric cytoplasmic domain of the phytosulfokine receptor, PSKR1. Biochem. J., 473: 3081 - 3098. https://www.ncbi.nlm.nih.gov/pubmed/27487840 **PSKR1 (Ser/Thr)**.
24. Oleksandra Prysyazhna, Joseph Robert Burgoyne, Jenna Scotcher, Steven Grover, David Kass, and Philip Eaton (2016). SIGNAL TRANSDUCTION: Phosphodiesterase 5 Inhibition Limits Doxorubicin-induced Heart Failure by Attenuating Protein Kinase G Iα Oxidation. J. Biol. Chem., 291: 17427 - 17436. https://www.ncbi.nlm.nih.gov/pubmed/27342776 **PKG (Ser/Thr)**.
25. Cheng H, Nair SK, Murray BW, Almaden C, Bailey S, Baxi S, Behenna D, Cho-Schultz S, Dalvie D, Dinh DM, Edwards MP, Feng JL, Ferre RA, Gajiwala KS, Hemkens MD, Jackson-Fisher A, Jalaie M, Johnson TO, Kania RS, Kephart S, Lafontaine J, Lunney B, Liu KK, Liu Z, Matthews J, Nagata A, Niessen S, Ornelas MA, Orr ST, Pairish M, Planken S, Ren S, Richter D, Ryan K, Sach N, Shen H, Smeal T, Solowiej J, Sutton S, Tran K, Tseng E, Vernier W, Walls M, Wang S, Weinrich SL, Xin S, Xu H, Yin MJ, Zientek M, Zhou R, Kath JC. (2016). Discovery of 1-{(3R,4R)-3-[({5-Chloro-2-[(1-methyl-1H-pyrazol-4-yl)amino]-7H-pyrrolo[2,3-d]pyrimidin-4-yl}oxy)methyl]-4-methoxypyrrolidin-1-yl}prop-2-en-1-one (PF-06459988), a Potent, WT Sparing, Irreversible Inhibitor of T790M-Containing EGFR Mutants. J Med Chem. 59: 2005-24. https://www.ncbi.nlm.nih.gov/pubmed/26756222 **EGFR & Mutants (Tyr), Covalent Inhibitors.**
26. Scotcher J, Prysyazhna O, Boguslavskyi A, Kistamas K, Hadgraft N, Martin ED, Worthington J, Rudyk O, Rodriguez Cutillas P, Cuello F, Shattock MJ, Marber MS, Conte MR, Greenstein A, Greensmith DJ, Venetucci L, Timms JF, Eaton P. (2016) Disulfide-activated protein kinase G Iα regulates cardiac diastolic relaxation and fine-tunes the Frank-Starling response. Nat Commun. 7:13187(1-11). https://www.ncbi.nlm.nih.gov/pubmed/27782102 **PKG (Ser/Thr).**
27. Cheng H, Nair SK, Murray BW, Almaden C, Bailey S, Baxi S, Behenna D, Cho-Schultz S, Dalvie D, Dinh DM, Edwards MP, Feng JL, Ferre RA, Gajiwala KS, Hemkens MD, Jackson-Fisher A, Jalaie M, Johnson TO, Kania RS, Kephart S, Lafontaine J, Lunney B, Liu KK, Liu Z, Matthews J, Nagata A, Niessen S, Ornelas MA, Orr ST, Pairish M, Planken S, Ren S, Richter D, Ryan K, Sach N, Shen H, Smeal T, Solowiej J, Sutton S, Tran K, Tseng E, Vernier W, Walls M, Wang S, Weinrich SL, Xin S, Xu H, Yin MJ, Zientek M, Zhou R, Kath JC. (2016). Discovery of 1-{(3R,4R)-3-[({5-Chloro-2-[(1-methyl-1H-pyrazol-4-yl)amino]-7H-pyrrolo[2,3-d]pyrimidin-4-yl}oxy)methyl]-4-methoxypyrrolidin-1-yl}prop-2-en-1-one (PF-06459988), a Potent, WT Sparing, Irreversible Inhibitor of T790M-Containing EGFR Mutants. J Med Chem. 59: 2005-24. https://www.ncbi.nlm.nih.gov/pubmed/26756222 **EGFR & Mutants (Tyr), Covalent Inhibitors.**
28. Scotcher J, Prysyazhna O, Boguslavskyi A, Kistamas K, Hadgraft N, Martin ED, Worthington J, Rudyk O, Rodriguez Cutillas P, Cuello F, Shattock MJ, Marber MS, Conte MR, Greenstein A, Greensmith DJ, Venetucci L, Timms JF, Eaton P. (2016) Disulfide-activated protein kinase G Iα regulates cardiac diastolic relaxation and fine-tunes the Frank-Starling response. Nat Commun. 7:13187(1-11). https://www.ncbi.nlm.nih.gov/pubmed/27782102 **PKG (Ser/Thr).**
29. Beck, J. R., Lawrence, A., Tung, A. S., Harris, E. N. and Stains, C. I. (2016). Interrogating Endogenous Protein Phosphatase Activity with Rationally Designed Chemosensors. ACS Chem Biol **11**: 284-290. http://www.ncbi.nlm.nih.gov/pubmed/26580981 **PTP1B (Tyr Phosphatase)**.

30. Beck JR, Truong T, Stains CI. (2016). Temporal Analysis of PP2A Phosphatase Activity During Insulin Stimulation Using a Direct Activity Probe. ACS Chem Biol. **16**;11(12):3284-3288. https://www.ncbi.nlm.nih.gov/pubmed/27805358 **PP2A (Ser/Thr Phosphatase)**.
31. Cheng, Z., Guo, Y., Yang, Y., Kan, J., Dai, S., Helian, M., Li, B., Xu, J. and Liu, C. (2016). Nitidine chloride suppresses epithelial-to-mesenchymal transition in osteosarcoma cell migration and invasion through Akt/GSK-3beta/Snail signaling pathway. Oncol Rep. **36**(2):1023-9. http://www.ncbi.nlm.nih.gov/pubmed/27279040 **GSK-3beta (Ser/Thr)**.
32. Zaytsev, A. V., Segura-Pena, D., Godzi, M., Calderon, A., Ballister, E. R., Stamatov, R., Mayo, A. M., Peterson, L., Black, B. E., Ataullakhanov, F. I., Lampson, M. A. and Grishchuk, E. L. (2016). Bistability of a coupled Aurora B kinase-phosphatase system in cell division. Elife **5**:e10644. http://www.ncbi.nlm.nih.gov/pubmed/26765564 **Aurora A & B (Ser/Thr)**.

2015:

33. Beck, J. R., Zhou, X., Casey, G. R. and Stains, C. I. (2015). Design and evaluation of a real-time activity probe for focal adhesion kinase. Anal Chim Acta **897**: 62-68. http://www.ncbi.nlm.nih.gov/pubmed/26515006 **FAK (Tyr)**.
34. Hagel, M., Miduturu, C., Sheets, M., Rubin, N., Weng, W., Stransky, N., Bifulco, N., Kim, J. L., Hodous, B., Brooijmans, N., Shutes, A., Winter, C., Lengauer, C., Kohl, N. E. and Guzi, T. (2015). First Selective Small Molecule Inhibitor of FGFR4 for the Treatment of Hepatocellular Carcinomas with an Activated FGFR4 Signaling Pathway. Cancer Discov **5**: 424-437. http://www.ncbi.nlm.nih.gov/pubmed/25776529 **FGFR4 (Tyr)**, **Covalent Inhibitors.**
35. Kelly, M. I., Bechtel, T. J., Reddy, D. R., Hankore, E. D., Beck, J. R. and Stains, C. I. (2015). A real-time, fluorescence-based assay for Rho-associated protein kinase activity. Anal Chim Acta **891**: 284-290. http://www.ncbi.nlm.nih.gov/pubmed/26388388 **ROCK (Ser/Thr)**.
36. Kuzmic, P., Solowiej, J. and Murray, B. W. (2015). An algebraic model for the kinetics of covalent enzyme inhibition at low substrate concentrations. Anal Biochem **484**: 82-90. http://www.ncbi.nlm.nih.gov/pubmed/25433146 **EGFR (Tyr)**, **Covalent Inhibitors.**
37. Liu, Q., Wang, J. and Boyd, B. J. (2015). Peptide-based biosensors. Talanta **136**: 114-127. http://www.ncbi.nlm.nih.gov/pubmed/25702993 **REVIEW**.
38. Odemuyiwa, S. O., Ilarraza, R., Davoine, F., Logan, M. R., Shayeganpour, A., Wu, Y., Majaesic, C., Adamko, D. J., Moqbel, R. and Lacy, P. (2015). Cyclin-dependent kinase 5 regulates degranulation in human eosinophils. Immunology **144**: 641-648. http://www.ncbi.nlm.nih.gov/pubmed/25346443 **CDK5 (Ser/Thr)**
39. Wang, Y. and Ma, H. (2015). Protein kinase profiling assays: a technology review. Drug Discov Today Technol **18**: 1-8. http://www.ncbi.nlm.nih.gov/pubmed/26723886 **REVIEW**.
40. Warthaka, M., Adelmann, C. H., Kaoud, T. S., Edupuganti, R., Yan, C., Johnson, W. H., Jr., Ferguson, S., Tavares, C. D., Pence, L. J., Anslyn, E. V., Ren, P., Tsai, K. Y. and Dalby, K. N. (2015). Quantification of a Pharmacodynamic ERK End Point in Melanoma Cell Lysates: Toward Personalized Precision Medicine. ACS Med Chem Lett **6**: 47-52. http://www.ncbi.nlm.nih.gov/pubmed/25589929 **MAPKs - ERK1& 2 (Ser/Thr)**.

2014:

41. Akl, M. R., Ayoub, N. M., Mohyeldin, M. M., Busnena, B. A., Foudah, A. I., Liu, Y. Y. and Sayed, K. A. (2014). Olive phenolics as c-Met inhibitors: (-)-Oleocanthal attenuates cell proliferation, invasiveness, and tumor growth in breast cancer models. PLoS One **9**: e97622. http://www.ncbi.nlm.nih.gov/pubmed/24849787 **cMET/HGFR (Tyr)**.
42. Devkota, A. K., Warthaka, M., Edupuganti, R., Tavares, C. D., Johnson, W. H., Ozpolat, B., Cho, E. J. and Dalby, K. N. (2014). High-throughput screens for eEF-2 kinase. J Biomol Screen **19**: 445-452. http://www.ncbi.nlm.nih.gov/pubmed/24078616 **eEF-2K (Ser/Thr)**.

43. Dumble, M., Crouthamel, M. C., Zhang, S. Y., Schaber, M., Levy, D., Robell, K., Liu, Q., Figueroa, D. J., Minthorn, E. A., Seefeld, M. A., Rouse, M. B., Rabindran, S. K., Heerding, D. A. and Kumar, R. (2014). Discovery of novel AKT inhibitors with enhanced anti-tumor effects in combination with the MEK inhibitor. PLoS One **9**: e100880. http://www.ncbi.nlm.nih.gov/pubmed/24978597 **AKT 1, 2 & 3 (Ser/Thr)**.
44. Edupuganti, R., Wang, Q., Tavares, C. D., Chitjian, C. A., Bachman, J. L., Ren, P., Anslyn, E. V. and Dalby, K. N. (2014). Synthesis and biological evaluation of pyrido[2,3-d]pyrimidine-2,4-dione derivatives as eEF-2K inhibitors. Bioorg Med Chem **22**: 4910-4916. http://www.ncbi.nlm.nih.gov/pubmed/25047940 **eEF-2K (Ser/Thr)**.
45. He, L., Liao, S. Y., Tan, C. P., Lu, Y. Y., Xu, C. X., Ji, L. N. and Mao, Z. W. (2014). Cyclometalated iridium(III)-beta-carboline complexes as potent autophagy-inducing agents. Chem Commun (Camb) **50**: 5611-5614. http://www.ncbi.nlm.nih.gov/pubmed/24728495 **CDK1 & 2 (Ser/Thr)**.
46. Keller, K. E., Doctor, Z. M., Dwyer, Z. W. and Lee, Y. S. (2014). SAICAR induces protein kinase activity of PKM2 that is necessary for sustained proliferative signaling of cancer cells. Mol Cell **53**: 700-709. http://www.ncbi.nlm.nih.gov/pubmed/24606918 **MAPKs - ERK1 & 2 (Ser/Thr)**.
47. Paris, D., Ait-Ghezala, G., Bachmeier, C., Laco, G., Beaulieu-Abdelahad, D., Lin, Y., Jin, C., Crawford, F. and Mullan, M. (2014). The spleen tyrosine kinase (Syk) regulates Alzheimer amyloid-beta production and Tau hyperphosphorylation. J Biol Chem **289**: 33927-33944. http://www.ncbi.nlm.nih.gov/pubmed/25331948 **SYK (Tyr)**.
48. Ramji, R., Wang, M., Bhagat, A. A., Tan Shao Weng, D., Thakor, N. V., Teck Lim, C. and Chen, C. H. (2014). Single cell kinase signaling assay using pinched flow coupled droplet microfluidics. Biomicrofluidics **8**: 034104. http://www.ncbi.nlm.nih.gov/pubmed/24926389 **EGFR (Tyr)**. **Microfluidics.**
49. Ressurreicao, M., De Saram, P., Kirk, R. S., Rollinson, D., Emery, A. M., Page, N. M., Davies, A. J. and Walker, A. J. (2014). Protein kinase C and extracellular signal-regulated kinase regulate movement, attachment, pairing and egg release in Schistosoma mansoni. PLoS Negl Trop Dis **8**: e2924. http://www.ncbi.nlm.nih.gov/pubmed/24921927 **PKC (Ser/Thr)**.
50. Sarkar, A., Kolitz, S., Lauffenburger, D. A. and Han, J. (2014). Microfluidic probe for single-cell analysis in adherent tissue culture. Nat Commun **5**: 3421. http://www.ncbi.nlm.nih.gov/pubmed/24594667 **AKT (Ser/Thr)**, **Microfluidics.**
51. Sartini, S., Coviello, V., Bruno, A., La Pietra, V., Marinelli, L., Simorini, F., Taliani, S., Salerno, S., Marini, A. M., Fioravanti, A., Orlandi, P., Antonelli, A., Da Settimo, F., Novellino, E., Bocci, G. and La Motta, C. (2014). Structure-based optimization of tyrosine kinase inhibitor CLM3. Design, synthesis, functional evaluation, and molecular modeling studies. J Med Chem **57**: 1225-1235. http://www.ncbi.nlm.nih.gov/pubmed/24447248 **VEGFR2/KDR and RET (Tyr)**.
52. Schwartz, P. A., Kuzmic, P., Solowiej, J., Bergqvist, S., Bolanos, B., Almaden, C., Nagata, A., Ryan, K., Feng, J., Dalvie, D., Kath, J. C., Xu, M., Wani, R. and Murray, B. W. (2014). Covalent EGFR inhibitor analysis reveals importance of reversible interactions to potency and mechanisms of drug resistance. Proc Natl Acad Sci U S A **111**: 173-178. http://www.ncbi.nlm.nih.gov/pubmed/24347635 **EGFR (Tyr)**, **Covalent Inhibitors.**
53. Silva, R. G., Geoghegan, K. F., Qiu, X. and Aulabaugh, A. (2014). A continuous and direct assay to monitor leucine-rich repeat kinase 2 activity. Anal Biochem **450**: 63-69. http://www.ncbi.nlm.nih.gov/pubmed/24463014 **LRRK2 (Ser/Thr)**.
54. Szalewski, D. A., Beck, J. R. and Stains, C. I. (2014). Design, synthesis, and evaluation of a selective chemosensor for leucine-rich repeat kinase 2. Bioorg Med Chem Lett **24**: 5648-5651. http://www.ncbi.nlm.nih.gov/pubmed/25467152 **LRRK2 (Ser/Thr)**.
55. Tjin Tham Sjin, R., Lee, K., Walter, A. O., Dubrovskiy, A., Sheets, M., Martin, T. S., Labenski, M. T., Zhu, Z., Tester, R., Karp, R., Medikonda, A., Chaturvedi, P., Ren, Y., Haringsma, H., Etter, J., Raponi, M., Simmons, A. D., Harding, T. C., Niu, D., Nacht, M., Westlin, W. F., Petter, R. C., Allen, A. and Singh, J. (2014). In vitro and in vivo characterization of irreversible mutant-selective EGFR inhibitors that are wild-type sparing.

Mol Cancer Ther **13**: 1468-1479. http://www.ncbi.nlm.nih.gov/pubmed/24723450 **EGFR (Tyr), Covalent Inhibitors.**

56. Zamora-Olivares, D., Kaoud, T. S., Jose, J., Ellington, A., Dalby, K. N. and Anslyn, E. V. (2014). Differential sensing of MAP kinases using SOX-peptides. Angew Chem Int Ed Engl **53**: 14064-14068. http://www.ncbi.nlm.nih.gov/pubmed/25319433 **MAPKs, ERK1/2, JNK1/2/3, and p38abdg (Ser/Thr)**.

2013:

57. Desai, B., Dixon, K., Farrant, E., Feng, Q., Gibson, K. R., van Hoorn, W. P., Mills, J., Morgan, T., Parry, D. M., Ramjee, M. K., Selway, C. N., Tarver, G. J., Whitlock, G. and Wright, A. G. (2013). Rapid discovery of a novel series of Abl kinase inhibitors by application of an integrated microfluidic synthesis and screening platform. J Med Chem **56**: 3033-3047. http://www.ncbi.nlm.nih.gov/pubmed/23441572 **ABL (Tyr), Microfluidics.**
58. Evans, E. K., Tester, R., Aslanian, S., Karp, R., Sheets, M., Labenski, M. T., Witowski, S. R., Lounsbury, H., Chaturvedi, P., Mazdiyasni, H., Zhu, Z., Nacht, M., Freed, M. I., Petter, R. C., Dubrovskiy, A., Singh, J. and Westlin, W. F. (2013). Inhibition of Btk with CC-292 provides early pharmacodynamic assessment of activity in mice and humans. J Pharmacol Exp Ther **346**: 219-228. http://www.ncbi.nlm.nih.gov/pubmed/23709115 **BTK (Tyr), Covalent Inhibitors.**
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A summary called **"Perspectives on the Development of the PhosphoSens® Kinase Assay Technology"**, written by Barbara Imperiali, Department of Chemistry and Biology, MIT, is available upon request.