

Ready to start planning your care? Call us at [646-926-0945](tel:646-926-0945) to make an appointment.

×



Memorial Sloan Kettering
Cancer Center

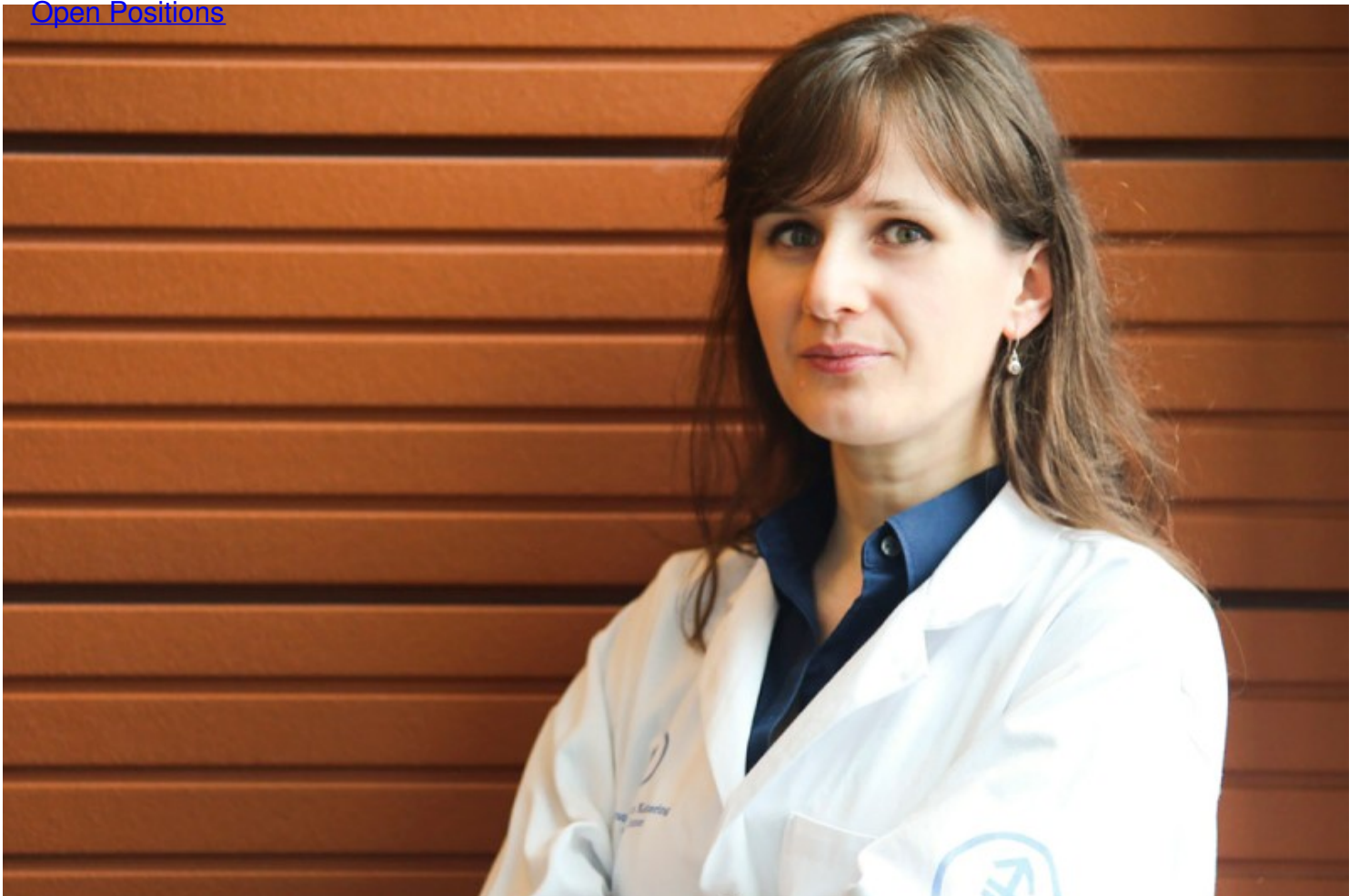
[About Us](#)
[Sloan Kettering Institute](#)

[The Gabriela Chiosis Lab](#)
[Research](#)

[Educator & Training](#)
Anna Rodina, PhD

[Senior Research Scientist](#)
[News & Events](#)

[Open Positions](#)



Lab Phone

646-888-2216

Email

rodinaa@mskcc.org

My research interests are broad and include areas in basic and translational oncology. I have an extensive background in cancer biology and biochemistry with a specific training and expertise in evaluation of chemical tools in in vitro and in vivo systems. Being at Memorial Sloan Kettering Cancer Center, I have extended my expertise to drug discovery by developing selectivity- and phenotypical assays for chaperome inhibitors and studying chaperome biology in cancer and neurodegenerative diseases using these tools. My efforts have resulted in multiple publications and patent applications.

My major focus is to study the biochemical and functional mechanism behind the epichaperome, and to investigate the translational significance of epichaperome multi-protein complexes in cancer. Towards this goal, I studied the mechanisms associated with epichaperome complex formation and its role in the sensitivity of tumors to HSP90 inhibitors. Specifically, I have developed methods to identify and characterize the epichaperome complex.

Another way to inhibit epichaperome networks in cancer is through targeting HSP70. Towards this goal we have discovered an inhibitor of a previously unknown allosteric HSP70 site, YK5. Derivatives of this compound have been made by my chemistry colleagues to identify those that are potent and selective binders of HSP70 epichaperomes. This generation of inhibitors represents a viable starting point for the development of novel anticancer therapeutics. High potency agents are now on the way to clinical translation. I am deeply involved in the investigation of these agents, of their mechanism of action and in the development of strategies for their rational translation to clinic.

Publications

Inda MC, Joshi S, Wang T, Bolaender A, Gandu S, Koren Iii J, Che AY, Taldone T, Yan P, Sun W, Uddin M, Panchal P, Riolo M, Shah S, Barlas A, Xu K, Chan LYL, Gruzinova A, Kishinevsky S, Studer L, Fossati V, Noggle SA, White JR, de Stanchina E, Sequeira S, Anthoney KH, Steele JW, Manova-Todorova K, Patil S, Dunphy MP, Pillarsetty N, Pereira AC, Erdjument-Bromage H, Neubert TA, Rodina A, Ginsberg SD, De Marco Garcia N, Luo W, Chiosis G. [The epichaperome is a mediator of toxic hippocampal stress and leads to protein connectivity-based dysfunction.](#) *Nat Commun.* 2020 Jan 16;11(1):319.

Taldone T, Wang T, Rodina A, Pillarsetty NVK, Digwal CS, Sharma S, Yan P, Joshi S, Pagare PP, Bolaender A, Roboz GJ, Guzman ML, Chiosis G. [A Chemical Biology Approach to the Chaperome](#)

[in Cancer-HSP90 and Beyond. *Cold Spring Harb Perspect Biol.* 2020 Apr 1;12\(4\).](#)

Kishinevsky S, Wang T, Rodina A, Chung SY, Xu C, Philip J, Taldone T, Joshi S, Alpaugh ML, Bolaender A, Gutbier S, Sandhu D, Fattahi F, Zimmer B, Shah SK, Chang E, Inda C, Koren J 3rd, Saurat NG, Leist M, Gross SS, Seshan VE, Klein C, Tomishima MJ, Erdjument-Bromage H, Neubert TA, Henrickson RC, Chiosis G, Studer L. [HSP90-incorporating chaperome networks as biosensor for disease-related pathways in patient-specific midbrain dopamine neurons. *Nat Commun.* 2018 Oct 19;9\(1\):4345.](#)

[Rodina A , Wang T , Yan P , Gomes ED , Dunphy MP , Pillarsetty N , Koren J , Gerecitano JF , Taldone T , Zong H , Caldas-Lopes E , Alpaugh M , Corben A , Riolo M , Beattie B , Pressl C , Peter RI , Xu C , Trondl R , Patel HJ , Shimizu F , Bolaender A , Yang C , Panchal P , Farooq MF , Kishinevsky S , Modi S , Lin O , Chu F , Patil S , Erdjument-Bromage H , Zanzonico P , Hudis C , Studer L , Roboz GJ , Cesarman E , Cerchietti L , Levine R , Melnick A , Larson SM , Lewis JS , Guzman ML , Chiosis G . The epichaperome is an integrated chaperome that facilitates tumour survival. *Nature.* 2016 Oct 20;538\(7625\):397-401.](#)

[Rodina A , Taldone T , Kang Y , Patel PD , Koren J 3rd , Yan P , DaGama Gomes EM , Yang C , Patel MR , Shrestha L , Ochiana SO , Santarossa C , Maharaj R , Gozman A , Cox MB , Erdjument-Bromage H , Hendrickson RC , Cerchietti L , Melnick A , Guzman ML , Chiosis G . Affinity purification probes of potential use to investigate the endogenous Hsp70 interactome in cancer. *ACS Chem Biol.* 2014 Aug 15;9\(8\):1698-705.](#)

Rodina A, Patel PD, Kang Y, Patel Y, Baaklini I, Wong M, Taldone T, Yan P, Yang C, Maharaj R, Gozman A, Patel M, Patel H, Erdjument-Bromage H, Talele T, Young JC and Chiosis G.

Identification of an allosteric pocket on human Hsp70 reveals a novel mode of inhibition of this therapeutically important protein . *Chemistry and Biology* 2013 Dec 19;20(12):1469-80.

Taldone T, Rodina A, Dagama Gomes EM, Riolo M, Patel HJ, Alonso-Sabadell R, Zatorska D, Patel MR, Kishinevsky S, Chiosis G. Synthesis and evaluation of cell-permeable biotinylated PU-H71 derivatives as tumor Hsp90 probes. [Beilstein J Org Chem.](#) 2013 Mar 15;9:544-56.

Moulick K, Ahn JH, Zong H, Rodina A, Cerchietti L, Gomes DaGama E, Caldas-Lopes E, Beebe K, Perna F, Hatzi K, Vu LP, Zhao X, Zatorska D, Taldone T, Smith-Jones P, Alpaugh M, Gross SS, Pillarsetty N, Ku T, Lewis JS, Larson SM, Levine R, Erdjument-Bromage H, Guzman M, Nimer SD, Melnick A, Neckers L, Chiosis G. Affinity-based proteomics reveal cancer-specific networks coordinated by Hsp90. *Nature Chem Biol* 2011, 7(11):818-26.

Rodina A, Vilenchik M, Moulick K, Aguirre J, Kim J, Chiang A, Litz J, Clement C, Kang Y, She Y, Wu N, Felts S, Wipf P, Massague J, Jiang X, Brodsky J, Krystal G and Chiosis G. Selective compounds define Hsp90 as a major inhibitor of apoptosis in small-cell lung cancer. *Nature Chem Biol* 2007; 3(8):498-507.

Luo W, Dou F, Rodina A, Chip S, Kim J, Zhao Q, Moulick K, Aguirre J, Wu N, Greengard P and Chiosis G. Roles of heat-shock protein 90 in maintaining and facilitating the neurodegenerative phenotype in tauopathies. *PNAS* 2007; 104(22):9511-9516.

My Projects

- [Protein-protein interaction networks in disease](#)

© 2026 Memorial Sloan Kettering Cancer Center