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## CERP Survey

Our goal is to meet or exceed your expectations for supporting your research through CERP. To assess how we are doing, and make improvements to our program, we need your feedback. If you have not already, please complete the CERPI survey by January 4<sup>th</sup>, 2022.

*Thank you*

[SURVEY LINK](#)



## A Moment of Transparency: Global Supply Chain Challenges Now Impacting CERP

Since 2018, ChromaDex has manufactured and bottled our active-ingredient clinical research material, to facilitate the request for material through CERP. Since our program started in 2013, we have developed 240+ material transfer agreements and sponsored 12+ studies to support the basic science, preclinical, and clinical advancements of Niagen® (ChromaDex's nicotinamide riboside) and other ChromaDex materials. Historically, this has resulted in MTAs to support over 60 clinical studies. Through CERP, we have donated over 11,000 bottles of active material and nearly 7,000 bottles of matching placebo to advance the science of nicotinamide riboside and NAD+. Additionally, we have committed to supplying over 14,000 bottles of clinical study material for 2022 and beyond to various studies in the United States, Europe, Australia, and Asia.

We were recently informed that our capsule vendor for our clinical material will not be able to fulfill our orders in a timely manner. The company is very behind, due to COVID-19 impacts to their business, and they are now requiring greater than a 12-month lead time to produce the capsules. Therefore, we are changing vendors for the capsules, but this will not impact the strength, purity or composition of the NIAGEN® we provide.

Our CERP Science Team, R&D, QA & QC, Logistics, Legal, and Supply Chain teams work tirelessly to ensure the protection of our CERPIs, the integrity of the research, and quality of the clinical study use product. We acknowledge that this change in vendors has the potential to create challenges for our clinical investigators. Unfortunately, because our original vendor is so behind, we do not have another choice, as we are committed to providing the high-quality material that we promised. We will be sending notice to all of the CERPI studies that will be potentially impacted and will include the Certificate of Analysis for the new capsules. We can provide additional information as requested, to support notification and concerns of Institutional Review Boards, and funding and regulatory agencies.

We sincerely apologize for this inconvenience, and we are here to work with you, answer your questions, and hopefully prevent any significant impact to your research. Feel free to reach out to [CERP@chromadex.com](mailto:CERP@chromadex.com) with your questions and requests. ■



## Reminder

Don't forget to submit your progress report every six (6) months, or as stipulated in your MTA. An updated progress report is required when requesting additional material or submitting an MTA amendment. We will provide you with a progress report form to simplify the process.

Request forms at [cerp@chromadex.com](mailto:cerp@chromadex.com) for:

- Abstract, manuscript, poster, or presentation slides submissions
- Bulk or clinical material requests
- Requesting an amendment



## Meet Our Newest CERP Team Member: Jun Kwon, MS, CERP Scientist II

CERP is a valuable component of the ChromaDex R&D team. We support scientists in 33 countries and at over 170 institutions. To manage our growing and evolving program, we added a new team member this summer.

### **Please describe your role at ChromaDex and how it relates to CERP**

As a CERP Scientist II, I review and communicate, orally and in written format, relevant scientific research to various audiences, and assist with material transfer applications, amendments, reports, and other correspondences from CERP investigators.

### **When did you join ChromaDex and why?**

I joined the ChromaDex Science Team in August of 2021. I was first exposed to the reference standards services that ChromaDex offers when I joined the dietary supplement industry two years ago. Not long after, I became aware that ChromaDex manufactured TRU NIAGEN<sup>®</sup>, and in addition, rigorously supported much of the research surrounding NAD<sup>+</sup> metabolism in various health and disease states, and the protective/therapeutic effects of NR. Recognizing the diverse benefits that NR could potentially confer for a large segment of the population, I did not hesitate to join the ChromaDex team when given the opportunity to do so.

### **What type of work were you previously conducting prior to joining ChromaDex?**

Immediately prior to joining ChromaDex, I worked as a research associate at a dietary supplement company, where I primarily focused on raw material and finished product safety and FDA compliance. I also have experience working as a personal trainer and as a nutrition assistant for NCAA athletes and patients with eating disorders.

### **What is your vision for the CERP program?**

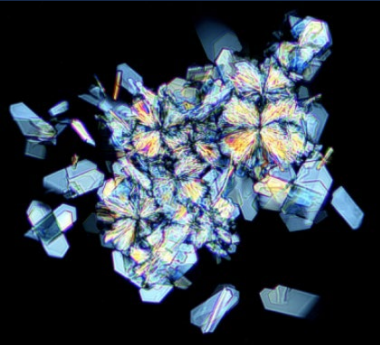
My vision is that CERP continues to play a central role in expanding and clarifying the roles that NR plays in various health conditions and subpopulations through carefully conducted pre-clinical and clinical investigations. Areas that I think are worth focusing on as it relates to NR include alcohol metabolism, body composition, liver health, and exercise and health or performance outcomes. By furthering the NR research in these areas, as well as others, I think we can eventually refine and personalize NR recommendations (dose, timing, formulation, etc.) for individuals depending on factors such as health status, goals, and tolerability. This may help both our marketing team and healthcare professionals to develop more sophisticated suggestions for consumers and patients.

### **In your opinion, how does CERP contribute to the overall goals of ChromaDex?**

CERP contributes to the overall goal of ChromaDex being a science-based organization. Because it underscores the fundamental importance that the company places on being evidence-based, which is generally lacking in the dietary supplement industry, CERP is appreciated by many in our customer base. By contracting and engaging with various academic institutions around the globe, we gain positive name recognition with respected researchers, educators, and practitioners all over the world.

### **How do you like to spend your time outside of work?**

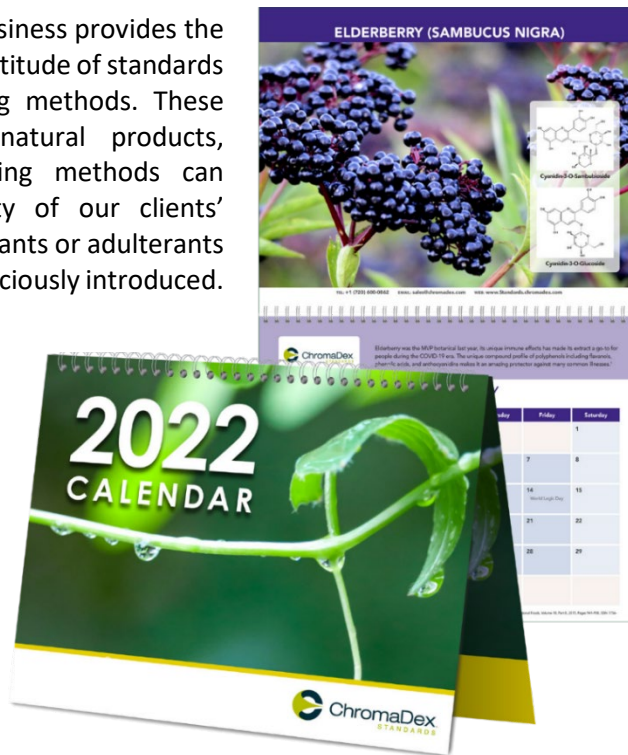
I like to lead an active lifestyle – you can find me weight training, surfing, swimming, golfing, hiking, cycling, indoor rowing, or playing pickleball several times a week. I also enjoy attending live music events. Finally, I treasure my relationship with family and friends, and strive to spend time with them often. ■



# ChromaDex's Reference Standards: High Quality Standards for your Research & Validation Studies

The ChromaDex Reference Standards business provides the food and supplement industry with a multitude of standards employed in safety and quality testing methods. These standards are from a variety of natural products, phytochemicals, and botanicals. Testing methods can determine the authenticity and purity of our clients' products, as well as identifying contaminants or adulterants that may have been inadvertently or maliciously introduced.

Our Reference Standards team also supports a services business, that can extract, isolate, and characterize materials from biomass. If you would like to learn more about our products and services, please contact our Vice President of Business Development, Nick Mitchell at [nick.mitchell@chromadex.com](mailto:nick.mitchell@chromadex.com) or visit our website to learn more. <https://standards.chromadex.com>



Were your research studies delayed due to COVID-19 closures and related impacts of the pandemic?

If you need to extend your MTA or alter your scope of work, please request the MTA Amendment Form and we will get right on it. As a friendly reminder, per the agreement, you are only allowed to use ChromaDex's material for the activities specified in the agreement and during the duration of the agreement.

## CERP IMPACT & GOALS

CERP continues to lead as an exemplary global program in the dietary supplement industry. We have not found another program in the industry that supports external researchers to the extent and magnitude of our program. We are proud of this distinction, and we want to continue to expand our program and reach. In 2021, there was an increase in the total number of peer-reviewed publications from CERPIs, compared to the previous two years. Additionally, though there was a drop in the total number of MTAs compared to 2020, this year was the first year there were more clinical than preclinical MTAs executed. As we move into 2022, we are looking forward to expanding our program to include additional compounds, supporting research from a nutrition perspective, and building our global network. We have observed a lack of diversity amongst NAD+ scientists, and we are planning an outreach program to encourage scientists from under-represented groups to incorporate NAD+ analysis and supplementation in their research. It is our goal to continue to grow our program, and hopefully influence other businesses to model CERP for their supplements and ingredients. *Cheers to the Future!* ■

## Setting the Standard for Excellence in Global Collaborative Research

- ▣ 243 MTAs
- ▣ 12+ Funded Studies
- ▣ 75+ peer-reviewed publications
- ▣ 17 clinical publications
- ▣ 170+ institutions
- ▣ 33 countries



### CERP Publications

Year	Q1			Q2			Q3			Q4			YTD Total (12/20/2021)		
	Preclinical	Both	Clinical	Preclinical	Both	Clinical	Preclinical	Both	Clinical	Preclinical	Both	Clinical	Preclinical	Both	Clinical
2021	4	0	1	6	0	1	7	0	0	5	0	0	22	0	2
2020	4	0	0	5	1	1	4	0	1	2	0	0	15	1	2
2019	4	0	0	4	0	0	2	0	3	4	0	1	14	0	4

### CERP Material Transfer Agreements

Year	Q1		Q2		Q3		Q4		YTD Total (12/20/21)	
	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical	Preclinical	Clinical
2021	2	3	3	3	0	2	1	3	6	11
2020	3	5	6	5	5	4	6	1	20	15
2019	0	1	0	1	5	2	4	1	9	5



## Did we miss your publication?

Please be sure to send your manuscripts to [cerp@chromadex.com](mailto:cerp@chromadex.com) prior to submission and keep us updated as you move through the publication process.

Empowered By:



ChromaDex's offices will be closed December 23<sup>rd</sup>, 2021-January 2<sup>nd</sup>, 2022. We are encouraging our team members to take a break from work and prioritize rest, joy, laughter, family and friends (and we hope you are doing the same). We appreciate your patience as it may take longer to respond to emails and order requests.

Thank you to our content contributors, editors, and reviewers:

Rebecca Idoine, Jun Kwon, Yasmeen Nkrumah-Elie, Nick Mitchell, Aron Erickson, Andrew Shao, & Heather Van Blommestein

## New CERP Publications

[Dall et al. 2021](#). Hepatocyte-specific perturbation of NAD<sup>+</sup> biosynthetic pathways in mice induces reversible nonalcoholic steatohepatitis-like phenotypes. *J Biol Chem*, 101388. doi:10.1016/j.jbc.2021.101388.

[Hu et al. 2021](#). Genetically encoded biosensors for evaluating NAD<sup>+</sup>/NADH ratio in cytosolic and mitochondrial compartments. *Cell Reports Methods* 1, 100116. doi:10.1016/j.crmeth.2021.100116.

[Quesada-Vázquez et al. 2021](#). Supplementation with a Specific Combination of Metabolic Cofactors Ameliorates Non-Alcoholic Fatty Liver Disease and, Hepatic Fibrosis, and Insulin Resistance in Mice. *Nutrients* 13, 3532. doi:10.3390/nu13103532.

[Xiao et al. 2021](#). Only the NAD precursor nicotinamide riboside maintains cardioprotection under clinically relevant conditions, possibly through activation of glycolysis. *Eur Heart J* 42. doi:10.1093/eurheartj/ehab724.3248.

[Yang et al. 2021](#). Combined Metabolic Activators Decrease Liver Steatosis by Activating Mitochondrial Metabolism in Hamsters Fed with a High-Fat Diet. *Biomed* 9, 1440. doi:10.3390/biomed9101440.

## The NAD + Metabolism and Signaling Conference

June 26-30, 2022  
Steamboat, CO  
#NBCSRC22

Conference Website



## Happy Holidays

Wishing You A Scientifically Invigorating 2022!!!



## CERPI Communiqué, December 2021



ChromaDex, Inc.  
10900 Wilshire Boulevard, Suite 600  
Los Angeles, California, USA 90024  
+1 (310) 388-6706  
[cerp@chromadex.com](mailto:cerp@chromadex.com)  
<http://www.chromadex.com/cerp>

Setting the Industry Standard for Excellence in Collaborative Research