Date: 3/7/2022

ARIZONA STATE UNIVERSITY
IACUC ANNUAL REVIEW

I. Currently approved protocol

Protocol Number: 21-1824R

Protocol Title: Comparison of transdermal, intravenous and oral delivery of bioactive compounds and drugs for browning white adipose tissue and evaluate their effects on obesity, atherosclerosis, fatty liver disease and diabetes

Principal Investigator: [redacted]

☒Funded ☒Unfunded

We have both funded and unfunded projects under this animal protocol.

II. Status of Project

A. Were the animal activities conducted?

i. ☒ **Yes, they were conducted.** If yes,

1. Were there any significant animal welfare issues (morbidity or mortality, complications, etc.) encountered over the past 12 months?
   a. ☒ Yes. Describe (include the problem, approximate number of animals affected, and resolution).
   One mouse had hydrocephalus, the mouse was euthanized immediately. One mouse had dermatitis, and it received treatment.
   b. ☐ No. Proceed to item II B.
2. Were all unanticipated welfare issues reported?
   a. ☒ Yes. Proceed to item II B.
   b. ☐ No. Describe. Proceed to item II B when completed.

ii. ☐ **No, they were not conducted.** If the protocol will be terminated, complete the Final Review form.

1. If the protocol will remain active, why were animal activities not conducted?

Proceed to Section II B.

B. Have there been any recent findings, either from this study or a related study that would change the planned use of animals?

- Species Used
- Animal Numbers
- Procedures
- Criteria to Measure/Monitor Pain or Distress
- Alternatives to Painful Procedures
- Restraint
- Amelioration and Control of Painful Procedures
- Estimation of Potential Postoperative/Intervention Pain
- Preoperative/Postoperative/Chronic Care
- Euthanasia/Disposition of Animals
- Animal Care and/or Use Sites

i. ☐ Yes. Complete a separate Request for Changes form describing all proposed changes as well as the scientific rationale for these changes. Proceed to item III.

ii. ☒ No. Proceed to item III.

III. Updated Information

A. Did the pain status stated on the protocol remain appropriate for the procedures performed?

i. ☒ Yes. Proceed to item III B.
ii. ☐ No. If no, please describe: Proceed to item III B when completed.

B. Has there been new funding added to the project?

i. ☒ Yes. Provide new grant(s) information:
Granting Agency: AHA
Title: Browning WAT inhibits atherosclerosis
ASU Proposal or Award number [redacted]

☐ No.

IV. Progress Report (for research or teaching protocols only)

Provide a statement on progress under this protocol over the past 12 months. Include any presentations or publications that have resulted from this protocol during the past 12 months.

We have conducted several animal studies, that include transdermal delivery for browning white adipose tissue. Oral administration for enhancing oral bioavailability, and target specificity studies. Mice paper is under writing. One experimental biology 2022 abstract has been accepted, the abstract title is Biocompatible and biodegradable nanoparticles for enhancing solubility and bioavailability of trans-resveratrol.

V. Personnel

All personnel who work with animals are required to have animal care training within the last four years. ASU IACUC training modules can be completed at https://asu.co1.qualtrics.com/jfe/form/SV_b2b2XRXRRs1309f. Personnel are required to have Level III training certification on file with the IACUC office in order to perform procedures independently (without supervision). See the IACUC web site (https://researchintegrity.asu.edu/animals/training) for more information on training and Level III forms.

*** Procedures other than husbandry, handling, or behavioral testing MUST be performed under supervision unless the person is Level III certified to conduct the procedure independently. Personnel are not Level III certified until the IACUC has reviewed and approved the Level III training documentation. The PI is responsible for ensuring that personnel who are not Level III certified are supervised at all times.**

A. List the names, titles, affiliations, and roles of **ALL** persons currently involved in the research or teaching activity.

Name	Title	ASURITE name	Role in Protocol: What activities will each person perform on live animals ONLY while under direct supervision?	Role in Protocol: What activities will each person be allowed to perform independently (including appropriate Level 3 certification*) at the time of protocol submission?	Species with which individual will have direct contact ("none" "all" or list species)	FOR IACUC USE ONLY: Training Confirmation
[redacted]	PI	[redacted]	All	All	All	8/2020 Basics 10/2020 Rodents

						OHSP
[redacted]	Postdoc		All	All	All	1/2021 OHSP
[redacted]	postdoc	[redacted]	All	All	All	8/2021 OHSP
[redacted]	PhD student	[redacted]	All	All	All	8/2021 OHSP
[redacted]	Undergraduate student		Oral glucose tolerance, euthanize mice, IVIS imaging, transdermal delivery	Basic and standard handling and body weight and composition measures	All	7/2021 OHSP
[redacted]	Undergraduate student		Oral glucose tolerance, euthanize mice, IVIS imaging, transdermal delivery	Basic and standard handling and body weight and composition measures	All	6/2021 OHSP
[redacted]	Undergraduate student		Oral glucose tolerance, euthanize mice, IVIS imaging, transdermal delivery	Basic and standard handling and body weight and composition measures	All	7/2021 OHSP

B. If any of the above listed personnel are new to the protocol, describe their years of experience with all listed species and procedures they will be conducting under this protocol. For procedures for which they are not yet trained, but will likely be trained to do during the activity period of this protocol, provide a description of who will provide such training:

C. List the names of any individuals no longer involved with the research (these individuals will be removed from the protocol and DACT will be notified):

VI. Certification

By signing this report, I certify that, to the best of my knowledge, the information included herein is accurate and complete. I understand that continued animal use past the scheduled termination date of the protocol requires IACUC approval. I also understand that should the animal use under this protocol require ANY change from that stated in the protocol, prior approval by the IACUC is required.

[redacted] 03-07-2022

Principal Investigator's Signature Date

FOR IACUC USE ONLY
Annual Review Determination

ANNUAL REVIEW APPROVAL SIGNATURES:

Chair, IACUC (or Designee)	Date
Attending Veterinarian (or Designee)	Date
IACUC Member	Date