Plan Overview

A Data Management Plan created using DMPTool

Title: Avaliação da biossegurança de duas novas acil hidrazonas sintéticas: citotoxicidade, genotoxicidade, efeitos sobre o ciclo celular, apoptose e análises da expressão gênica de genes correlatos.

Creator: Edson Maistro

Affiliation: São Paulo State University (unesp.br)

Principal Investigator: Laine Andreotti de Almeida

Project Administrator: Edson Luis Maistro

Funder: Coordenação de Aperfeicoamento de Pessoal de Nível Superior (capes.gov.br)

Template: Digital Curation Centre

Project abstract:

As Acil-hidrazonas, também denominadas de N-Acil-hidrazonas, correspondem ao grupo de hidrazonas cuja estrutura geral é R1R2C=N–NH–(C=O)–R3, sendo consideradas substâncias de derivatização clássica de compostos carbonilados, cujos centros ativos de carbono e nitrogênio são os principais responsáveis pelas atividades físico-químicas destes compostos. Estas constituem compostos azometínicos que despertam intensos interesses científicos por seu amplo espectro de ações farmacológicas e por sua versatilidade na síntese de compostos nitrogenados. De modo geral sua síntese ocorre da condensação de hidrazidas com compostos carbonílicos como os aldeídos e as cetonas que podem ser catalisadas em meios ácidos ou ocorrerem em solventes próticos. Dentre as ações farmacológicas são exemplos a ação antimicrobiana, anti-inflamatória, analgésico, anticonvulsivante, antifúngico, antitubercular, antiviral, cardioprotetor e antiplaquetário, dentre outros. Frente as potenciais aplicações terapêuticas dessas moléculas, é de fundamental importância estudos de sua toxicidade. Diante do exposto, o presente projeto visa identificar os potenciais citotóxicos e genotóxicos da (3,4-Metilenodioxibenzilideno) e da (2,3-Diidroximetilbenzilideno)-hidrazida do ácido 4-piridinocarboxí em células HepG2/C3A

(contendo enzimas metabolizadoras hepáticas ativas) e leucócitos de sangue periférico humano, além de investigar possíveis efeitos destes compostos sobre a progressão do ciclo celular, sobre a indução de apoptose em esferóides de células HepG2/C3A, bem como avaliar possíveis alterações na expressão de genes chave dessas vias metabólicas.

Start date: 04-03-2023

End date: 03-31-2026

Last modified: 12-22-2022

Copyright information:

Avaliação da biossegurança de duas novas acil hidrazonas sintéticas: citotoxicidade, genotoxicidade, efeitos sobre o ciclo celular, apoptose e análises da expressão gênica de genes correlatos.

Data Collection

What data will you collect or create?

Toxicity data will be obtained from the cultured lymphocytes and HepG2/C3A human cells treated with different concentrations of both acil-hydrazide. The data will be shown the effects of these compounds in the
context of cytotoxicity, genotoxicity, (with active liver metabolizing enzymes) and human leukocytes, and the effects of these compounds on the progression of the cell cycle, induction of apoptosis, and gene expression in HepG2/C3A cells (human hepatoma).
All data collected will be in tables and laboratory chains.

How will the data be collected or created?

The data about toxicity will be collected from cultured human cells (lymphocytes and HepG2/C3A) exposed to both acil-hydrazide.

Documentation and Metadata

What documentation and metadata will accompany the data?

Graphics, FIDs, spectra, figures, and tables.

Ethics and Legal Compliance

How will you manage any ethical issues?

All procedures involving toxicity analysis will be approved by the Human Ethics Committee of the Faculty of Philosophy and Sciences, UNESP, Marília town.

How will you manage copyright and Intellectual Property Rights (IP/IPR) issues?

As a result of this project, articles will be published. Copyright will be determined jointly with the members of our research group.

Storage and Backup

How will the data be stored and backed up during the research?

Data will be backed up with copies in hard drives in laboratory computers, as well as the university offers google Drive, which assists in data storage.

How will you manage access and security?

All researchers involved in the project will have access to the data, but only the researcher responsible and coordinator will edit and update the backup.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

The data will be shared with the scientific community through publications. In addition, they will serve to originate future projects.

What is the long-term preservation plan for the dataset?

We store these data in drives of all laboratories involved in this project, and laboratory chains.

Data Sharing

How will you share the data?

The data will be used for participation in a scientific congress. And, after a great understanding of

the results, the data will be published in the form of an article or patents.

Are any restrictions on data sharing required?

Before intellectual protection the data is not available. After intellectual protection the data cannot be used for commercial purposes without consent from the holder. Toxicity data will be published for the entire community, after which it can be shared.

Responsibilities and Resources

Who will be responsible for data management?

The data acquired during the project will be managed by the responsible researcher in each laboratory and the project coordinator.

What resources will you require to deliver your plan?

The project will be necessary for collaboration with other researchers to collect and analyze the data obtained from the mentioned experiments.
