

# PRE Clinical Interagency reSearch resourcE-TBI

## Preclinical Model Project



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UC San Diego

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MU Health

# What is PRECISE-TBI?

- **PRE Clinical Interagency reSearch resourceE-TBI**
  - Mission:
    - To develop and promote an interagency resource center to **accelerate development of therapies** for traumatic brain injury (TBI) by elevating **rigor, reproducibility, and transparency** in preclinical research.
- Resources:
  - Common Data Elements,
  - Open Data Commons for TBI Research (ODC-TBI)
  - TBI Model Project/Model Core



# Preclinical Model Project / Model Core Resources

- [Surveys](#)
  - Model Information Survey
  - Model Sensor Survey
- [PRECISE-TBI model catalog](#)
- [Preclinical TBI protocols](#)

# Surveys



PRECISE-TBI

ABOUT ▾

## PRECISE-TBI TOOLBOX

Collection of tools from the PRECISE-TBI project  
about traumatic brain injury (TBI)

[Learn More](#)



Model Catalog

An online catalog of preclinical models of TBI



Protocols

Explore preclinical TBI model protocols



General Models Survey

Provide feedback on preclinical TBI models



Model Sensor Survey

Provide feedback on your TBI model sensors

# PRECISE-TBI Preclinical Models Information Survey

- **Goal of the survey:**
  - To provide the PRECISE-TBI project administration a better understanding of preclinical TBI models and information to optimize the preclinical TBI model catalog.
- **Please take a few minutes to complete now**



# PRECISE-TBI Preclinical Model Sensor Survey

- **Goal of the survey:**
  - This survey will give the PRECISE-TBI project administration a better understanding of how model sensors are used for TBI preclinical models.
- Please take a few minutes to complete now



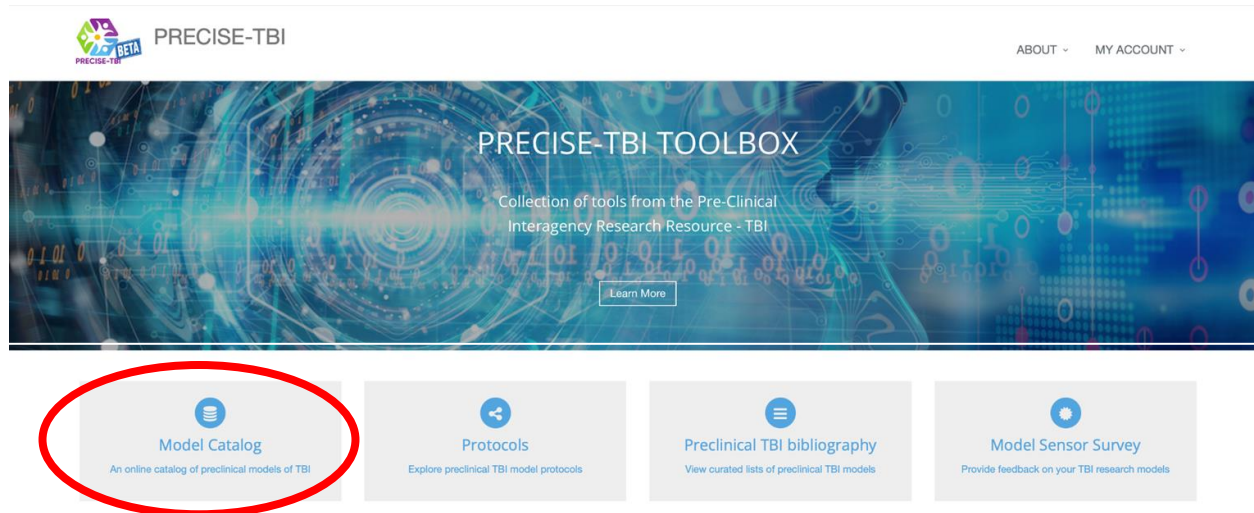
# Preclinical Model Catalog





# What is the PRECISE preclinical model catalog?

- The catalog provides the traumatic brain injury (TBI) community with a **centralized queryable online resource** specific to preclinical TBI models.
- The catalog enables a more **detailed search** and accurate categorization of **TBI article metadata** (<https://scicrunch.org/precise-tbi>).



The image shows a screenshot of the PRECISE-TBI website. At the top left is the PRECISE-TBI logo with a 'BETA' tag. To the right are links for 'ABOUT' and 'MY ACCOUNT'. The main banner features a blue and green digital background with the text 'PRECISE-TBI TOOLBOX' and 'Collection of tools from the Pre-Clinical Interagency Research Resource - TBI'. Below the banner are four navigation cards: 'Model Catalog' (highlighted with a red circle), 'Protocols', 'Preclinical TBI bibliography', and 'Model Sensor Survey'. Each card includes an icon and a brief description of the resource.

PRECISE-TBI BETA

PRECISE-TBI

ABOUT ▾ MY ACCOUNT ▾

PRECISE-TBI TOOLBOX

Collection of tools from the Pre-Clinical Interagency Research Resource - TBI

Learn More

**Model Catalog**  
An online catalog of preclinical models of TBI

**Protocols**  
Explore preclinical TBI model protocols

**Preclinical TBI bibliography**  
View curated lists of preclinical TBI models

**Model Sensor Survey**  
Provide feedback on your TBI research models

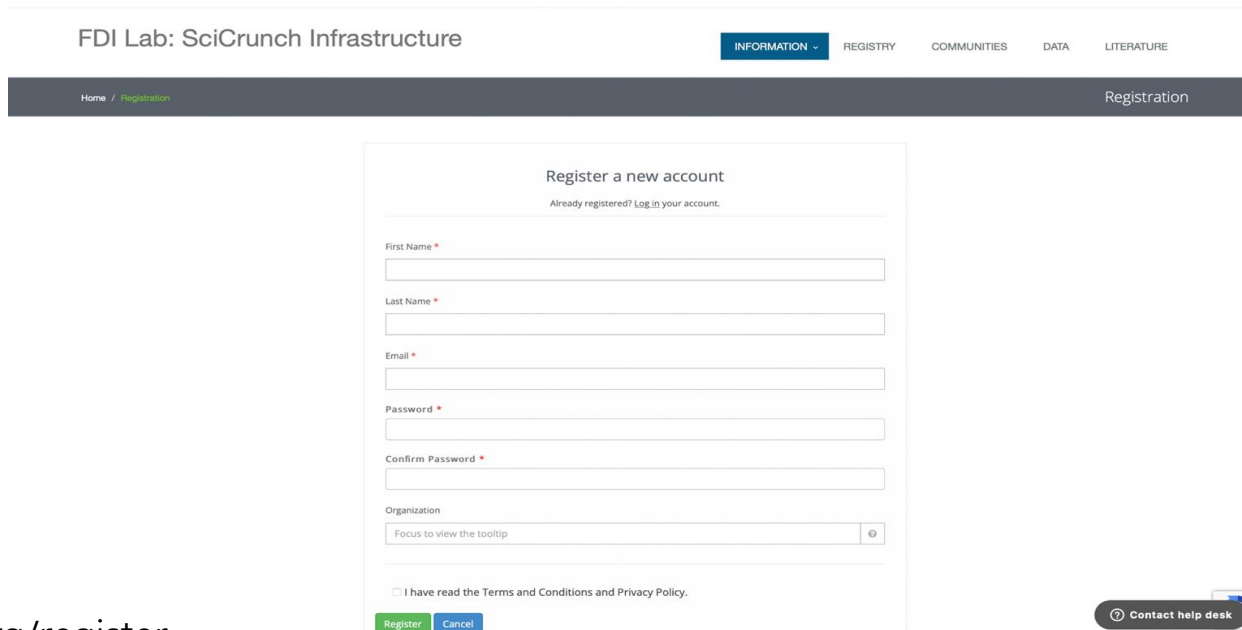
PRECISE-TBI

# Model Catalog papers

- How are **papers selected** to be added to the model catalog?
  - Curated from a multiple [PubMed search terms](#) from an expert in the field. Currently, there are 4 basic models being added to the catalog
    - Controlled cortical impact model
    - Fluid percussion model
    - Weight-Drop model
    - Blast model
- How is the **metadata added** to the catalog?
  - All papers in the catalog were manually curated, in preparation for future semi-automated curation process. Additional papers will be added quarterly.
- The **list of papers** that will eventually be added to the catalog is located in the [Preclinical TBI bibliography](#).

# PRECISE-TBI preclinical model catalog account

- Setup to an account to access all of the features of the model catalog at <https://scicrunch.org/register>
  - saved searches
  - access to the Application Programmatic Interface (API)
- An account is not required to simply view the catalog



The screenshot shows the registration page for the FDI Lab: SciCrunch Infrastructure. The page has a dark header with the site name and navigation links. Below the header is a breadcrumb trail and a 'Registration' link. The main content area is a white box titled 'Register a new account' with a link for already registered users. The registration form includes fields for First Name, Last Name, Email, Password, and Confirm Password. There is also a dropdown menu for Organization and a checkbox for reading the Terms and Conditions and Privacy Policy. At the bottom of the form are 'Register' and 'Cancel' buttons. A 'Contact help desk' button is located in the bottom right corner of the page.

FDI Lab: SciCrunch Infrastructure

INFORMATION - REGISTRY COMMUNITIES DATA LITERATURE

Home / Registration Registration

Register a new account

[Already registered? Log in your account.](#)

First Name \*

Last Name \*

Email \*

Password \*

Confirm Password \*

Organization

Focus to view the tooltip

I have read the Terms and Conditions and Privacy Policy.

Register Cancel

Contact help desk

<https://scicrunch.org/register>



# Provide feedback or request help



PRECISE-TBI

ABOUT - MY ACCOUNT -

Home / Discovery Sources / PRECISE-TBI Model Catalog

PRECISE-TBI Model Catalog

SEARCH Type in a keyword to search

controlled cortical

Search

Save search

Reset search

Filter by records added date  
See new records

Snippet Table

Elastic Search Query New Index

54 Results - 20 per page

Show More Columns | Download 1000 results

Facets

- Strain Type
- TBI Model Type
- Sex
- Assessments
- Species

Perform Search

Recent searches

- Search for: 'controlled cortical' in discovery (k-precise-tbi-model)
- Search for: "\*" in discovery (k-precise-tbi-model)
- Search for: 'controlled

Study	TBI Model Type	Species	Strain	Sex	Age (weeks)	Assessments
Monaco CM,et al.,2013	Controlled cortical impact model	rat	Sprague-Dawley	female		hindlimb reflexive ability, single probe trial, Cortical lesion volume, Morris Water Maze (MWM), Beam balance test, Beam walk test, righting reflex, Rotarod test, Cresyl violet staining
Pleasant JM,et al.,2011	Controlled cortical impact model	mouse	C57BL/6J	male	12 - 14	Amyloid precursor protein, Cortical contusion volume, Immunoglobulin, Immunohistochemistry (IHC), Morris Water Maze (MWM), Neurological Severity Score (NSS), Neuroscore, Regional hippocampal ... [more]
Woertgen C,et al.,2001	Controlled cortical impact model	rat	Wistar	male		Neuron-Specific Enolase Light Immuno Assay
Dixon CE,et al.,1991	Controlled cortical impact model	rat	Sprague-Dawley	No sex reported		Beam balance test, Morris Water Maze (MWM), Beam walk test
Manley GT,et al.,2006	Controlled cortical impact model	pig	Yorkshire	male		Intracranial B Nissl staining, Cresyl violet staining (P

Contact help desk

Contact help desk

Please leave a description of the issue and, if applicable, a URL where the issue occurs.

Name

Email

Message

zendesk

Send message



PRECISE-TBI

# To the model catalog...



What species and assessments have been used for the controlled cortical injury model?

- Search for preclinical injury models in the catalog by major attributes, e.g.,
  - Model - Controlled Cortical impact Model
  - Assessment - motor, morphology
  - Species - rat, mouse

What models have been used to study cognitive outcomes after pediatric mild TBI in mice?

- Search for preclinical injury models in the catalog by major attributes, e.g.,
  - Assessment - motor, morphology
  - Species - rat, mouse
  - Age - 10-12 weeks

# Protocols

<https://scicrunch.org/precise-tbi>



PRECISE-TBI

ABOUT ▾ MY ACCOUNT ▾

PRECISE-TBI TOOLBOX

Collection of tools from the Pre-Clinical Interagency Research Resource - TBI

[Learn More](#)

A banner with a blue and green digital background featuring binary code and circuit patterns. The text "PRECISE-TBI TOOLBOX" is centered in white. Below it, the subtitle "Collection of tools from the Pre-Clinical Interagency Research Resource - TBI" is also centered. A "Learn More" button is positioned at the bottom center of the banner.

Model Catalog

An online catalog of preclinical models of TBI



Protocols

Explore preclinical TBI model protocols



Preclinical TBI bibliography

View curated lists of preclinical TBI models



Model Sensor Survey

Provide feedback on your TBI research models

# PRECISE-TBI Protocols

Allow for **investigators** to **share** and **find** TBI **protocols** in a **centralized way** to encourage reproducibility in preclinical TBI research.

[PRECISE-TBI protocols on Protocols.io](#)

▶ FAQ - protocols.io

The protocols below are created in the PRECISE-TBI workspace in [Protocols.io](#)

## ▼ Controlled Cortical Impact Model Protocol

- [Open Skull CCI in rats](#) - Available at [dx.doi.org/10.17504/protocols.io.5qpvobozbl4o/v1](https://dx.doi.org/10.17504/protocols.io.5qpvobozbl4o/v1)

## ▼ Fluid Percussion Model Protocol

- [Fluid Percussion Model in rat](#) - Lyeth Lab - [dx.doi.org/10.17504/protocols.io.rm7vzb2r5vx1/v1](https://dx.doi.org/10.17504/protocols.io.rm7vzb2r5vx1/v1)

## ▼ Blast Injury Model Protocol

- [Open-field blast \(OFB\) model in mice](#)- Available at [dx.doi.org/10.17504/protocols.io.yxmvm2kwog3p/v1](https://dx.doi.org/10.17504/protocols.io.yxmvm2kwog3p/v1)
- [Advanced Blast Stimulator in rat](#) - VandeVord Lab - Coming soon

## ▼ Weight-Drop Model Protocol

- [Closed Head Weight Drop Mmodel in mice](#) - Whalen Lab - [dx.doi.org/10.17504/protocols.io.j8nlkw2pdl5r/v1](https://dx.doi.org/10.17504/protocols.io.j8nlkw2pdl5r/v1)



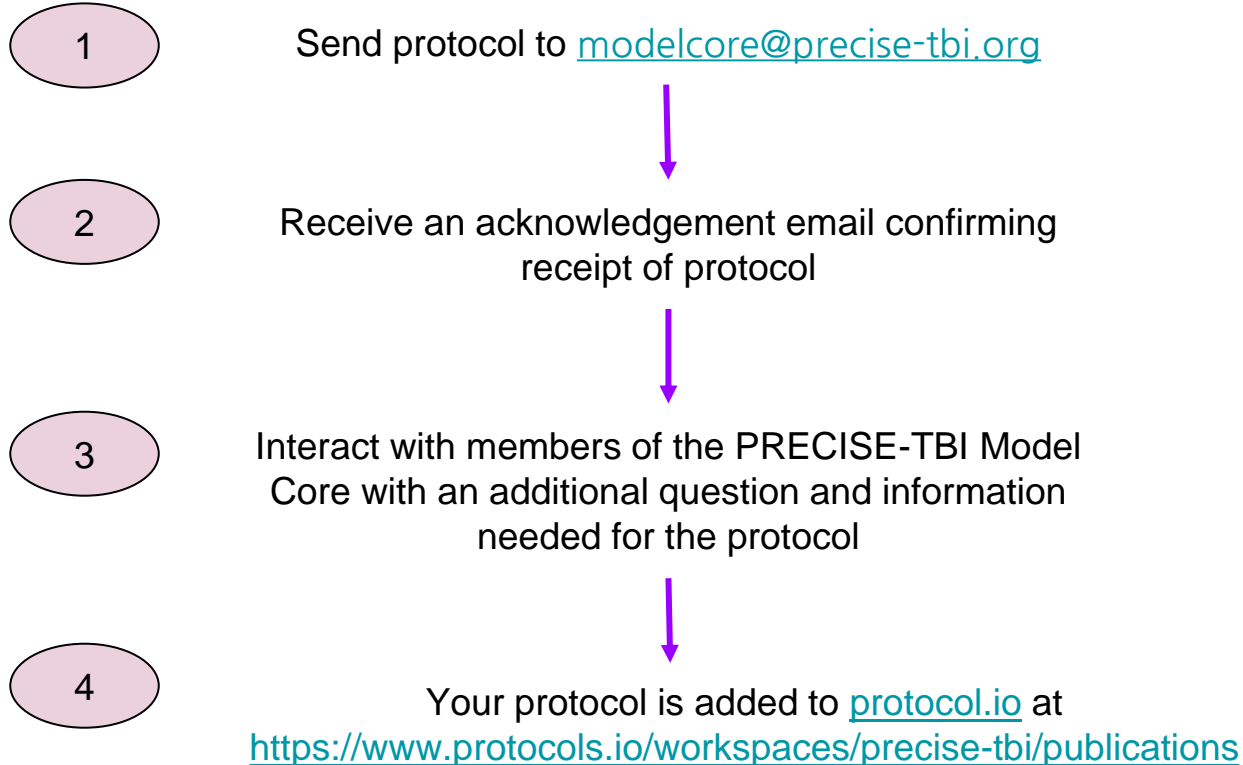
# Protocols.io

Protocols.io is an **open-access repository** for **sharing** and **collaborating** on **experimental methods and protocols**.

- There are over 450 journals linked to protocols.io where authors can deposit their full protocol.
- Provides a unique, permanent identifier - Digital Object Identifier, DOI, that can be cited in scholarly articles.
- Ability to modify an existing protocol, linking back to the originating protocol. “To ensure that the original protocol author can track reuse and receive credit for it.”



# How to add a protocol to the PRECISE-TBI protocols.io community?



# User Experience

Working in collaboration with the **PRECISE-TBI Model Catalog Team**, your research group can format your protocol into the [Protocols.io](#) template

The screenshot shows a web page for a protocol titled "Open-field blast (OFB) model in mice" on the Protocols.io platform. The page layout includes a header with the user's name and navigation options, a main content area with a document icon, a share button, and a "WORKS FOR ME" button. The protocol details include the DOI, author names with affiliations, and a list of footnotes. A "PRECISE-TBI" badge is visible. Below the author information, there are tabs for "STEPS", "METADATA", "MATERIALS", and "METRICS". At the bottom, a "DISCLAIMER" section contains text about animal care and protocol availability. Two callout arrows are present: one pointing to the author and affiliation information, and another pointing to the disclaimer text.

Catherine Johnson / Publications / Open-field blast (OFB) model in mice

SEARCH

SHOW TABLE OF CONTENTS

Open-field blast (OFB) model in mice

DOI  
dx.doi.org/10.17504/protocols.io.yxvm2kweg3p/v1

Catherine Johnson<sup>1,2,3</sup>, Jiankun Cui<sup>4,1,3</sup>, Amital Zuckerman<sup>4,3,1</sup>,  
Hailong Song<sup>7</sup>, Graham K. Hubler<sup>4</sup>, Ralph G. DePalma<sup>5,6</sup>,  
Iboja Cernak<sup>4</sup>, Zezong Gu<sup>4,1</sup>

<sup>1</sup>Open Field Blast Core;  
<sup>2</sup>Missouri University of Science and Technology, Department of Mining and Explosives Engineering, Rolla, MO 65409, USA;  
<sup>3</sup>PRECISE-TBI;  
<sup>4</sup>Department of Pathology and Anatomical Sciences, University of Missouri - Columbia School of Medicine, Columbia, MO 65211, USA;  
<sup>5</sup>Norman Rich Department of Surgery, Uniformed University of Health Sciences, Bethesda, MD 20814;  
<sup>6</sup>Office of Research and Development, Department of Veterans Affairs, Washington, DC 20420, USA;  
<sup>7</sup>Department of Biomedical Sciences, Mercer University School of Medicine, Columbus, GA 31901, USA

PRECISE-TBI

Catherine Johnson  
Missouri University of Science and Technology

COMMENTS 0

RUN

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MORE ↓

SHARE

WORKS FOR ME 3

STEPS METADATA MATERIALS METRICS

DISCLAIMER

All methods described here have been approved by the Care and Use of Laboratory Animals of the University of Missouri-Columbia, Missouri University of Science and Technology in Rolla, and by the Truman VA committees.

Use and storage of explosives is governed by the Bureau of Alcohol, Tobacco, Firearms and Explosives (BAFTE) and all training and approvals should be in place before the use.

Use of this protocol is available through the VA's Open Field Blast Core. Email [VHACMOOFBC@va.gov](mailto:VHACMOOFBC@va.gov) for questions.

**Title, Authors, Affiliations**

**Disclaimers**

# User Experience

Abstract with PDF  
of publication

## ABSTRACT

This is a protocol to describe the materials and methods utilized by the submitter to perform preclinical traumatic brain injury (TBI) using the open-field blast (OFB) model in mice.

Service members in theater or military training frequently are exposed to primary blast by explosive weaponry. Thus, blast-induced mTBI is the most common form of TBI, regarded as a 'Signature Wound or Invisible Injury' in recent military conflicts. This highly reproducible, open-field low-intensity blast (LIB) injury in mice, the "Missouri Blast" model, uses detonating 350 g of high-energy explosive Composition C-4 (C4). Open-field LIB with C4, set at 1-m above the ground, generates the initial Friedlander waveform with blast rise time on microsecond scale, and includes interactions from the primary blast shockwave reflection off the ground. Comprehensive physical characterization includes the measurements of peak overpressure, blast rise time, positive phase duration, impulse, and velocity of blast waves. High-speed videography is used to capture the dynamic blast events and to ensure the reproducibility of the experimental blast exposures, confirming the absence of visible impact / acceleration on the blast-exposed mice in prone position. This model is scalable and allows study of varying magnitudes of primary blast injuries by placing animals at different distances away from the center of the blast. Overall, this animal model will provide a platform to enhance the understanding of the pathogenesis of blast-induced brain injury and is critical for developing new prevention and treatment strategies against the risk for later neurodegeneration and cognitive impairments. A list of publications using this protocol can be found in the attached document.

The posting of this protocol is part of the mission of PREclinical Interagency reSearch resource-TBI (PRECISE-TBI, [precise-tbi.org](https://www.precise-tbi.org)) to improve clinical translation of therapeutics by providing an online catalogue and standardized protocols to reduce the variability of model usage between laboratories.

## BEFORE STARTING

Use and storage of explosives is governed by the Bureau of Alcohol, Tobacco, Firearms and Explosives (BAFTE) and all training and approvals should be in place before use.

## ATTACHMENTS



References as  
of  
01062023.pdf

Animal Prep and  
Test Setup

## Animal Preparation

- 1 House all animals with *ad libitum* access to food and water, in a temperature controlled housing room, that is maintained on a 12:12 hour light: dark cycle. (NOTE: The animal unit in accordance with the animal welfare act has been installed away from the blast point ensuring the animals in the sham group were not affected by explosions.)

The open field environment exposes Animals to outside conditions. Hot and cold months should be avoided when planning experiments.

## Open-Field Blast Setup

- 2 The open-field blast experimental site is located within the well-equipped Energetics Research Facility at Missouri University of Science & Technology, on the University Experimental Mine in Rolla.
- 3 Set the blast conditions for calculated peak overpressure using a blast simulator such as the Army Blast Effects Calculator (BEC) software or Kingery Bulmash online calculator.
- 4 Place metal mesh platforms at calculated distances away from the charge stand location allowing the blast waves to travel unimpeded in all directions. Charge stands are made for animals to be 1 meter above the ground.



Mice in prone position placed in metal mesh platforms allowing unimpeded blast wave travel

# User Experience

## Induction of Primary Blast Injury

- 13 Prior to the blast experiment, anesthetize the mouse through intraperitoneal (i.p.) injection of approximately 5  $\mu$ l/g body weight using a Ketamine/Xylazine mixture (25 mg/mL ketamine and 1.25 mg/mL xylazine) until it is non-responsive to a paw or tail pinch. (NOTE: Blast exposures are conducted between 10 A.M.–12 P.M. during spring and fall seasons at the Experimental Mine). Environmental conditions need to be recorded (temperature, wind speed/direction, and humidity).
- 14 Place the animals on the positioned metal mesh platform facing the explosive, with their head and body longitudinally oriented along the direction of shock wave.
- 15 Ensure no remaining personnel are on the blast site.
- 16 Detonate the C4 explosive.

**Injury Induction**

## Induction of Sham Injury

- 20 Sham group undergo the identical procedures as the blast group only without blast exposure.
- 21 Once the animals are able to spontaneously move and recovery from anesthesia, continuously monitor for 15 to 30 min.

**Sham procedures**

# User Experience

STEPS **METADATA** MATERIALS METRICS

DOI  
[dx.doi.org/10.17504/protocols.io.yxmv2kwo3p/v1](https://doi.org/10.17504/protocols.io.yxmv2kwo3p/v1)

PDF  
<https://protocols.io/view/open-field-blast-ofb-modein-mice-chqg5jw/pdf>

HTML  
<https://protocols.io/view/open-field-blast-ofb-modein-mice-chqg5jw/html>

PROTOCOL CITATION

Catherine Johnson, Jiankun Cui, Amitai Zuckerman, Hailong Song, Graham K. Hubler, Ralph G. DePalma, Ibolja Cernak, Zezong Gu  
2023. Open-field blast (OFB) model in mice. **protocols.io**  
<https://dx.doi.org/10.17504/protocols.io.yxmv2kwo3p/v1>

MANUSCRIPT CITATION please remember to cite the following publication along with this protocol

Users of the protocol should also review and cite relevant papers from the attached list of papers that use this protocol.


PROTOCOL STATUS

**Working**  
We use this protocol and it's working

KEYWORDS

Traumatic Brain Injury (TBI), blast induced, open-field blast, mice injury model, PRECISE-TBI


LICENSE

 This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

WIDGET

```
<iframe src="https://www.protocols.io/widgets/doi?url=dx.doi.org/10.17504/protocols.io.yxmv2kwo3p/v1" style="width: 520px; height: 300px; border: 1px solid transparent;"></iframe>
```

QR CODE



protocols.io

CREATED  
Oct 10, 2022

Add Metadata

**BONUS:**  
ODC-TBI allows for links to your published protocol!

STEPS METADATA **MATERIALS** METRICS

MATERIALS

**Equipment:**

- BAFTE approved blast site and explosives storage
- Wire mesh stands for holding animals
- High Frequency ICP blast pressure pencil probe for static pressure recording (e.g. PCB Model 137B25)
- High Frequency ICP pressure sensor for total reflected pressure (e.g. Model 102B18)
- Data Acquisition System (e.g. Synergy HI-Techniques)
- High Speed camera (E.g. Phantom V2012)
- Composition C-4 (or other high explosive)
- Blasting cap
- Capacitive Discharge Unit (e.g. Scorpion Blasting Machine)

**Materials for anesthetizing:**

- Ketamine
- Xylazine
- Syringes (1ml)
- Needles (25G)

Add Materials

# Data Stewardship with FAIR

Edit Mode Welcome back, Adam Logout

## Open Data Commons for Traumatic Brain Injury

ABOUT ▾

MY ACCOUNT ▾

Get help with NIH sharing mandates and our [Sample DMS Plan](#)

Join us Fridays @ 11 AM PDT for office hours to learn how ODC can help with the new NIH Data Management and Sharing Plans

Office Hours

### Welcome to the ODC-TBI

A free community platform to Share Data, Publish Data with a DOI, and get Citations

Learn more about us

Explore public data

Dashboard

66  
Labs

120  
Datasets

13  
DOIs

### Pick the level of free access that works for you

Tier 1 - Basic Access

✓ Download public data

Get Started

Tier 2 - Community Access

✓ Download public data  
✓ Access community data

Get Started

Tier 3 - Full Access

✓ Download public data  
✓ Access community data  
✓ Share your data  
✓ Get a citeable DOI

Get Started

## Home-cage monitoring general behavior of C57BL/6J male mice during the CognitionWall test 3 months after open-field LIB exposure

DOI:10.34945/F59W23

### DATASET CITATION:

Zuckerman A., Siedhoff H. R., Balderrama A., Cui J., Gu Z. (2023) Home-cage monitoring general behavior of C57BL/6J male mice during the CognitionWall test 3 months after open-field LIB exposure. Open Data Commons for Traumatic Brain Injury. ODC-TBI:872  
<http://dx.doi.org/10.34945/F59W23>

### ABSTRACT:

**STUDY PURPOSE:** Evaluate the chronic-phase behavioral alterations 3 months after exposure to low-intensity blast in a home-cage-like environment during the CognitionWall test.

**DATA COLLECTED:** A total of 52 male C57Bl/6J mice, 8 weeks old, were used. The mice were randomly allocated into one of two groups: Blast (n=29) or Sham (n=23). Mice in the Blast group were exposed to open-field low-pressure blast wave (46.6 kPa, maximum impulse of 60.0 kPa\*ms), under anesthesia. Mice from the Sham group were anesthetized but were not exposed to the blast wave. 3 months post-exposure, general behavior on the locomotor activity of the mice was measured using the PhenoTyper® home-cages (Model 3000, Noldus Information Technology, The Netherlands) and CognitionWall™ system (Noldus Information Technology, The Netherlands). All mice were familiar with the home-cage environment by being placed in the PhenoTyper for three days before conducting the CognitionWall assessments. Each mouse was housed individually, and its activity was continuously measured for 96 hours at a sample rate of 15 fps. Program-acquired data were uploaded to the web-based AHCODA-DB (Sylics, Bilthoven, The Netherlands) for meta-analysis. Eighteen behavioral parameters were analyzed and included in this dataset. See protocols and other related data in the relevant links section below.

**CONCLUSIONS:** No significant differences were found between the Blast and Sham mice in different parameters of general behavior on the locomotor activity. These data provided the essential baseline of both LIB-exposed mice and Sham controls in order to exclude the possibility that different performances in the CognitionWall tasks were caused by differences in overall locomotor activity.

## ODC-TBI Public Dataset



Home-cage monitoring general behavior of C57BL/6J male mice during the CognitionWall test 3 months after open-field LIB exposure

DOI:10.34945/F59W23

### DATASET CITATION

Zuckerman A., Siedhoff H. R., Balderrama A., Cui J., Gu Z. (2023) Home-cage monitoring general behavior of C57BL/6J male mice during the CognitionWall test 3 months after open-field LIB exposure. Open Data Commons for Traumatic Brain Injury. ODC-TBI:872 <http://doi.org/10.34945/F59W23>

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### DATASET INFO

Contact: Gu Zezong ([guze@health.missouri.edu](mailto:guze@health.missouri.edu))

Lab: PRECISE-TBI Lab: Truman Memorial VA

ODC-TBI Accession:872

Records in Dataset: 5510

Fields per Record: 24

Last updated: 2023-06-09

Date published: 2023-06-09

Downloads: 4

Files: 2

### LICENSE

Creative Commons Attribution License (CC-BY 4.0)

### FUNDING AND ACKNOWLEDGEMENTS

Department of Veterans Affairs Offices of Research & Development (VA ORD) LAMb/ShEEP programs, BLR&D Director Service program UFR-002-18F, Open-Field Blast



CognitionWall tasks were caused by differences in overall locomotor activity.

## KEYWORDS

primary open-field blast; home-cage monitoring; Phenotype; Cognition; CognitionWall; test; locomotor activity

*Cross-linked to papers*

## PROVENANCE / ORIGINATING PUBLICATIONS

- Chen S, Siedhoff HR, Zhang H, Liu P, Balderrama A, Li R, Johnson C, Greenlief CM, Koopmans B, Hoffman T, DePalma RG, Li DP, Cui J, Gu Z. Low-intensity blast induces acute glutamatergic hyperexcitability in mouse hippocampus leading to long-term learning deficits and altered expression of proteins involved in synaptic plasticity and serine protease inhibitors. *Neurobiol Dis.* 2022 Apr;165:105634. DOI: 10.1016/j.nbd.2022.105634. PMID: 35077822.. doi:10.1016/j.nbd.2022.105634.

## RELEVANT LINKS

Home-cage monitoring spontaneous activity of C57BL/6J male mice 3 months after open-field low-intensity blast exposure

<https://dx.doi.org/10.34945/F5FK5C>

Related dataset in ODC-TBI

Open-field blast (OFB) model in mice protocol

<https://dx.doi.org/10.17504/protocols.io.yxmvm2kwog3p/v1>

Protocol for the Open-field blast (OFB) model in mice in protocols.io

Open-field Blast parameters dataset

<https://dx.doi.org/10.34945/F5630G>

Datasets with the blast parameters for the relevant subjects

## NOTES

Service, Columbia, Missouri, USA; Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, Missouri, USA

**Balderrama, Ashley**

Harry S. Truman Memorial Veterans' Hospital Research Service, Columbia, Missouri, USA; Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, Missouri, USA

**Cui, Jiankun**

Harry S. Truman Memorial Veterans' Hospital Research Service, Columbia, Missouri, USA; Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, Missouri, USA

**Gu, Zezong [ORCID:0000-0002-2411-7460]**

Harry S. Truman Memorial Veterans' Hospital Research Service, Columbia, Missouri, USA; Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, Missouri, USA

## Open-field blast model (Chen S. et al.,2022)

**Associated Protocols:** 6040

**Associated Datasets:** 6041

**TBI Model Type:** Blast model

**Organism Species:** mouse

**Organism Strain:** C57BL/6J

**Assessments:** mEPSCs, home-cage monitoring (HCM), CognitionWall, label-free quantitative proteomics, STRING Protein interaction

**Citation:** Chen S, Siedhoff HR, Zhang H, Liu P, Balderrama A, Li R, Johnson C, Greenlief CM, Koopmans B, Hoffman T, DePalma RG, Li DP, Cui J, Gu Z. Low-intensity blast induces acute glutamatergic hyperexcitability in mouse hippocampus leading to long-term learning deficits and altered express ...[\[more\]](#)

**Associated Protocols:** DOI:10.17504/protocols.io.yxmvm2kwog3p/v1

**Associated Datasets:** DOI:10.34945/F59W23



# User Experience Feedback!

*5-star customer service*

*Very User Friendly*

*Prompt Feedback*

*Very important initiative to help increase rigor and reproducibility!*



Contact us at [modelcore@precise-tbi.org](mailto:modelcore@precise-tbi.org)



Preclinical TBI Model Sensor Survey (v 1.0) PRECISE-TBI	
<b>Name and Institution</b>	
_____	
<b>TBI Model</b> _____ (e.g., fluid percussion, CCI, blast, weight drop)	
<b>Sensor Type</b> (check one or more)	
<input type="checkbox"/> Pressure transducer	Make and Model number _____

Visit our booth to take the survey and learn more about PRECISE-TBI!

_____	AD Card	Make and Model number _____
_____	Software	Make and Model number _____
<input type="checkbox"/> Other equipment	Make and Model number _____	
<b>Sensor use</b> (check all that apply)		
<input type="checkbox"/>	Calibration	
<input type="checkbox"/>	For each experiment	
<input type="checkbox"/>	Both	

Thank you!!!

Slides from this workshop will be posted to link  
on NINDS TBI website



<https://www.ninds.nih.gov/current-research/focus-disorders/focus-traumatic-brain-injury-research>