

Find suitable experimental models for your compound

Are you interested in finding comprehensive information on validated, in vivo, preclinical models of human diseases, toxicity, or target efficacy studies that can be used in testing your compound?

Experimental Models Knowledge Area of *Clarivate Analytics Integrity* enables you to find models of human disease and understand a model’s performance in previous assay/drug tests. You will be able to access information about model-related drugs, biomarkers, targets, genomics, experimental pharmacology, literature, and patents where available. **Example Scenario:** you have identified a cannabinoid receptor agonist for the treatment of pain with a dual mechanism of action and would like to start preclinical trials in an animal model. You want to identify other compounds that have a dual cannabinoid agonist mechanism and review the models the drugs were tested on.

Find suitable experimental models for testing your compound:

The screenshot displays the 'Advanced Search' interface. The search criteria are set to 'Mechanism of Action' with terms 'Cannabinoid CB1 Receptor Agonists' and 'Cannabinoid CB2 Receptor Agonists' connected by 'AND'. The search results table shows three entries:

Entry Number	Highest Phase	Code Name	Generic Name	Brand Name	Product Category	Therapeutic Group
405234	Discontinued	SAB-378				Analgesic Drugs
281862	Biological Testing	HU-313				Non-Opioid Analgesics Antiglaucoma Agents
281863	Biological Testing	HU-314				Non-Opioid Analgesics Antiglaucoma Agents

Below the results is a 'Drugs & Biologics' navigation menu with various categories and record counts. The 'Experimental Models' category is highlighted with 33 records. A 'Filter by Statistics' sidebar is visible on the left, and a 'Condition' filter chart is shown on the right, with 'Pain' selected.

In *Integrity* you can set up a search to find compounds that have a dual mechanism of action. In the **Drugs & Biologics** Knowledge Area run a search using the **Mechanism of Actions** field and select terms from the **Index**. In this example, we want to see compounds that are Cannabinoid CB1 Receptor Agonist and Cannabinoid CB2 Receptor Agonists. Use the term **AND** between the mechanism terms in the field. It will automatically appear as **OR** and you will need to change it manually to **AND**.

The results show those compounds that have been shown to act as both Cannabinoid CB1 Receptor Agonists and Cannabinoid CB2 Receptor Agonists. You can sort the results by the **Highest Phase** by clicking on the column heading.

To see the **Experimental Models** that have been used in testing these compounds, open the **Options** menu and then select **All Related Information via Quick Search**.

Clicking the link to the **Experimental Models** Knowledge Area displays a table of the models used in tests with the cannabinoid CB1/CB2 receptor agonists. To see only those models for pain, you should select the **Condition** filter by **Statistics** chart and from the chart select the categories that are for **Pain**.

Working with your data:

Records Retrieved Records 1 to 13 of 13 retrieved

Options

- Keep Me Posted
- Export Center
- Integrity Reports
- Full Records**
- All Related Information via Quick Search
- Printer Friendly Format

Model	Species	Strain	Characteristic (Characteristic Details)	Target	Exp. Pharma
Abdominal pain, acetic acid-induced, in mouse (CD-1)	Mus musculus (mouse)	CD-1	Chemical agent-induced (Acetic acid)	Pain, abdominal	66
Abdominal pain, phenylbenzoquinone-induced, in mouse	Mus musculus (mouse)		Chemical agent-induced (Phenyl-p-benzoquinone)	Pain, abdominal	126
Neuropathic pain, sciatic nerve ligation/mechanically-induced, in rat	Rattus norvegicus (rat)		Mechanically induced; Sciatic nerve ligation	Pain, neuropathic	25

Abdominal pain, acetic acid-induced, in mouse (CD-1)

Record ID: 2039
 Last Updated Date: Dec 24, 2017
 Species: Mus musculus (mouse)
 Strain: CD-1
 Sex: Male; Not Specified; Female
 Age: Adult; Young; Not Specified
 Model Assays: Abdominal contraction test

Model Characteristics

Induction, substance: Chemical agent-induced
 Acetic acid; oral; intraperitoneal

Application

Target/Condition/Toxicity	Study Type	Severity	Exp. Pharma	Refs	Pat
Pain, abdominal	Measure drug efficacy	Acute	66	17	1
Select/Deselect All			66	17	1

Drug Information

Drug Name	Exp. Pharma	Refs	Pat
Hydrocodone bitartrate	2	1	0
Morphine	5	5	0
Morphine sulfate	5	5	0
Acetylsalicylic acid	2	2	0
Indometacin	2	2	0
155808	2	1	0
Vollarsentan	1	1	0
ZH-241385	1	1	0
Zincisatamab	1	1	0

Select/Deselect All View all 64 drugs tested on this model 66 23 3

Related Information

Drugs & Biologics: 24 Literature: 24 Patents: 0 Experimental Pharmacology: 66 Experimental Models: 113 Disease: 1

Records Retrieved 66 in Experimental Pharmacology

Options

Drug Name	Biomarker	Mechanism of Action	Experimental Activity	Pharmacological Activity	Material / Experimental Model	Method	Parameter	Value	Details
155808			Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		ED-50	3.32 ± 0.360 µmol/kg s.c.	Ref_12
155808			Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		ED-50	11.5 ± 2.81 µmol/kg p.o.	Ref_12
315022			Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		ED-50	0.330 mmol/kg p.o.	Ref_2
315022			Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		ED-50	0.180 mmol/kg p.o.	Ref_2
467231			Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		ED-50	12.3 mg/kg s.c.	Ref_18
676369		delta-Opioid Receptor Agonists	Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)	Abdominal contraction test	ED-50	21.5 ± 1.50 µmol/kg i.v.	Ref_11
882543			Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		MED	≤ 0.100 g/kg i.p.	Ref_14
882544		TRPV1 (Vanilloid VR1 Receptor) Antagonists	Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		MED	≤ 0.250 g/kg i.p.	Ref_14
925795		kappa-Opioid Receptor Agonists	Pain, abdominal remission/reduction, IN VIVO	Writing (acetic acid-induced), inhibition	Mice abdominal pain, acetic acid-induced, in mouse (CD-1)		ED-50	0.490 mg/kg s.c.	Ref_6

To see the full records, open the **Options** pulldown menu and select **Full Records**. The full record display contains information about the model and its characteristics.

Some records contain a link in the **Characteristic Details** that opens a popup window with further information about, for example, the **Inducer**.

The **Experimental Model** record shows the **Application Information** at the top. Applications are classified as Target, Condition, or Toxicity by the entry in the Study Type field: Pharmacodynamic studies, Measure drug efficacy, and Measure drug toxicity, respectively. You can link to the **Experimental Pharmacology** records, **References**, and **Patents** associated with the **Application**. At the bottom of the record you can see which drugs have been tested in the model and link through to the **Drugs & Biologics**, **Experimental Pharmacology**, **Reference**, and **Patent** records.

By clicking on the **Experimental Pharmacology** links you will see the associated data values displayed in a table.