

Purpose

The purpose of this document is to provide users a resource to effectively navigate the Human Cancer Models Initiative (HCMI) Searchable Catalog.

What is HCMI

The Human Cancer Models Initiative (HCMI) is a collaboration between the US National Cancer Institute (NCI) – part of the National Institutes of Health (NIH), Cancer Research UK (CRUK), Wellcome Sanger Institute (WSI), and foundation Hubrecht Organoid Technology (HUB). The goal of HCMI in its pilot phase is to create up to 1,000 next-generation cancer models from patient tumors that are clinically and molecularly characterized. For more information about the HCMI program, please visit: <https://ocg.cancer.gov/programs/HCMI>.

What is the HCMI Searchable Catalog

The HCMI Searchable Catalog allows users to browse and identify potential next-generation cancer models for use in research. Links to available associated molecular characterization and clinical data at the National Cancer Institute’s (NCI) Genomic Data Commons (GDC), the European Genome-phenome Archive (EGA), and the 3rd party HCMI Model Distributor will be available on each model page as the information is processed and validated.

HCMI Searchable Catalog URL: <https://hcmi-searchable-catalog.nci.nih.gov/>

Supported browsers include Chrome, Firefox, and Edge.

Table of Contents

[Navigating the HCMI Searchable Catalog Landing Page](#) 2

[Querying the Searchable Data Elements](#) 4

[Navigating Individual HCMI Model Pages](#) 6

[Viewing Individual Model Data](#) 7

[Feedback and Bug Reporting](#) 8

Navigating the HCMI Searchable Catalog Landing Page

This page features a dynamic view, enabling users to filter the models by several elements, and easily download the saved results.

Human Cancer Models Initiative **Searchable Catalog**

↓ SEARCH BY NAME

Q Enter model name ...

↓ PRIMARY SITE

- Brain 8
- Colon 7
- Rectum 1

↓ TYPE

- 3-D: Organoid 8
- 2-D: Adherent 5
- 3-D: Other (e.g. neurosphere, air-liquid interface, etc.) 2
- 2-D: Suspension 1

↓ ACQUISITION SITE

- Brain 8
- Sigmoid colon 5
- Cecum 1
- Liver 1

1 More

Use the filter panel on the left to customize your model search.

SHARE

MODELS BY PRIMARY SITE

2D VERSUS 3D GROWTH

Showing 1 - 16 of 16 models

Filter COLUMNS EXPORT ALL

NAME	PRIMARY SITE	CLINICAL TUMOR DI...	GENDER	RACE	AGE AT ACQUISITIO...	AGE AT DIAGNOSIS (...)
☐ HCM-CSHL-0060-C18	Colon	Colorectal cancer	Male	White	51	51
☐ HCM-BROD-0011-C71	Brain	Glioblastoma	Male	White	55	55
☐ HCM-BROD-0012-C71	Brain	Glioblastoma	Female	White	57	57

Show 20 rows

3 << < 1 > >>

Box (1) shows the main viewing pane of the models. Box (1a) shows columns that users can sort the models based on the default information such as “NAME”, “PRIMARY SITE”, etc. Click the column name to sort alphabetically or numerically depending on the data element.

Box (2) shows the number of models that users may choose to be viewed at once.

Box (3) at the bottom of the page shows arrows that allow users to view additional pages of available models in the main viewing pane.

Showing 1 - 16 of 16 models

NAME	PRIMARY SITE	CLINICAL TUMOR D...	GENDER
HCM-BROD-0002-C71	Brain	Glioblastoma	Male
HCM-BROD-0003-C71	Brain	Glioblastoma	Female
HCM-BROD-0011-C71	Brain	Glioblastoma	Male
HCM-BROD-0012-C71	Brain	Glioblastoma	Female
HCM-BROD-0014-C71	Brain	Glioblastoma	Male
HCM-BROD-0028-C71	Brain	Glioblastoma	Female
HCM-BROD-0029-C71	Brain	Glioblastoma	Male

Show 20 rows

Filter

COLUMNS

EXPORT ALL

4

4a

DIAGNOSIS (Y...)

Name

Primary Site

Clinical Tumor Diagnosis

Clinical Stage Grouping

Gender

Race

Age At Acquisition (Years)

Age At Diagnosis (Years)

Histological Type

Histological Grade

Chemotherapeutic Drug List Available

Acquisition Site

The default columns shown in the viewing pane can be customized based on the information of interest. Box (4) shows the “**COLUMNS**” button, where users may select or deselect the data elements to view in the main viewing pane.

Once users have selected their data elements to be shown in the viewing pane, these data for the models can be exported using the “**EXPORT ALL**” function in box (4a) and saved as a .tsv file. To view the .tsv file in a tabular format, users may open the saved file in Excel or similar program.

Return to [Table of Contents](#)

Querying the Searchable Data Elements

Human Cancer Models Initiative **Searchable Catalog**

↓ SEARCH BY NAME

Q Enter model name ...

↓ PRIMARY SITE **5**

- ☒ Colon 5

↓ TYPE

- ☐ 3-D: Organoid 5

↓ ACQUISITION SITE

- ☒ Sigmoid colon 5
- ☐ Cecum 1
- ☐ Liver 1

↓ CLINICAL TUMOR DIAGNOSIS

- ☐ Colorectal cancer 5

↓ CLINICAL STAGE GROUPING

- ☐ Stage IIIB 2
- ☐ Stage IIA 1
- ☐ Stage IIIA 1
- ☐ Stage IVA 1

5a CLEAR ACQUISITION SITE is Sigmoid colon X and PRIMARY SITE is Colon X

MODELS BY PRIMARY SITE: 1 PRIMARY SITES

2D VERSUS 3D GROWTH

Showing 1 - 5 of 5 models

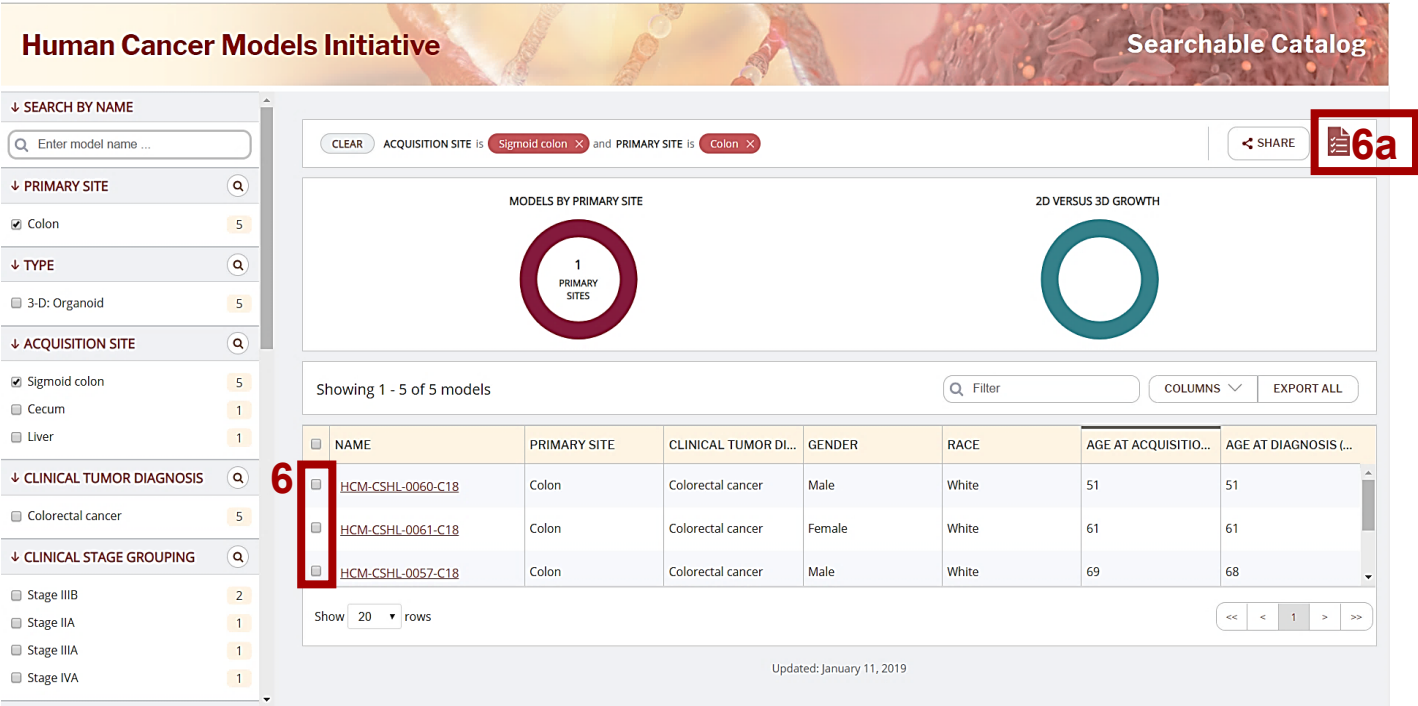
NAME	PRIMARY SITE	CLINICAL TUMOR DL...	GENDER	RACE	AGE AT ACQUISITIO...	AGE AT DIAGNOSIS (...)
HCM-CSHL-0060-C18	Colon	Colorectal cancer	Male	White	51	51
HCM-CSHL-0061-C18	Colon	Colorectal cancer	Female	White	61	61
HCM-CSHL-0057-C18	Colon	Colorectal cancer	Male	White	69	68

Show 20 rows

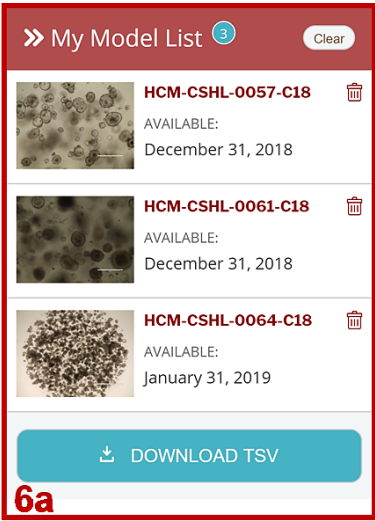
Updated: January 11, 2019

Box (5) shows the filter panel containing the data elements that can be used to customize the model search. Users may scroll through the filter panel to view the searchable data elements. To filter searchable variable(s), users may check or uncheck boxes to select or deselect data elements. The models list in the main viewing pane will dynamically change as filtered elements in box (5) are selected or deselected.

Box (5a) at the top of the viewing pane shows the selected filtered data elements. Users may deselect a searchable data element by clicking the 'X' next to the name of the filtered element. To reset all selections, utilize the "CLEAR" button at the top of the pane.



In box (6), users may select the models of interest by clicking on the checkboxes next to the model name. Box (6a) shows “My Model List”, which functions as a ‘shopping list’ where the selected models are saved.



Clicking on the  icon in box (6a) allows users to view the models that have been saved to the “My Model List”. Users may download the list of saved models by clicking the  icon, individually delete the selected models by clicking the corresponding trash symbol, , or clear all selected models from the list by clicking “Clear”.

Return to [Table of Contents](#)

Navigating Individual HCMI Model Pages

The Searchable Catalog will be updated as model information is complete. On each individual model page, all available 28 data elements are shown. Some data are found in other databases and are linked directly under “External Resources” within the “Repository Status”. The data elements for each model are listed in sections including “Model Details”, “Patient Details”, “Repository Status”, and “Variants” (if present).

Human Cancer Models Initiative

Searchable Catalog

Model HCM-CSHL-0057-C18

1

[HCM-BROD-0014-C71](#)
[Model 11 of 16](#)
[HCM-CSHL-0062-C18](#)

2

[BACK TO SEARCH](#)

Model Details

GROWTH RATE

N/A

NAME

HCM-CSHL-0057-C18

SPLIT RATIO

N/A

TYPE

3-D: Organoid

CHEMOTHERAPEUTIC DRUG LIST AVAILABLE

Yes

NEOADJUVANT THERAPY

Yes, pharmaceutical treatment

MOLECULAR CHARACTERIZATIONS

N/A

PRIMARY SITE

Colon

TNM STAGE

T3N1cM1a

ACQUISITION SITE

Sigmoid colon

CLINICAL STAGE GROUPING

Stage IVA

HISTOLOGICAL GRADE

GB

CLINICAL TUMOR DIAGNOSIS

Colorectal cancer

HISTOLOGICAL TYPE

Adenocarcinoma

Patient Details

Repository Status

Model Images

AGE AT DIAGNOSIS (YEARS)

68

AGE AT ACQUISITION (YEARS)

69

DISEASE STATUS

N/A

GENDER

Male

RACE

White

THERAPY

Cytotoxic chemotherapy

VITAL STATUS

N/A

DATE UPDATED

January 23, 2019

DATE OF AVAILABILITY

December 31, 2018

LICENSING REQUIRED

Yes

DATE CREATED

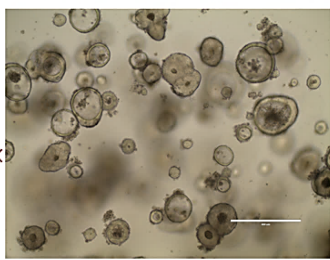
December 03, 2018

External Resources

[Link to Source](#)

ORIGINAL SEQUENCING FILES

N/A



Scale-bar length: 400 µm | Magnification: 10 x | Passage Number: 0

Variants

CLINICAL SEQUENCING

HISTOPATHOLOGICAL BIOMARKERS

GENOMIC SEQUENCING

Showing 1 - 5 of 5 Variants

[TSV](#)

NAME	GENE(S)	ASSESSMENT TYPE	EXPRESSION LEVEL	FREQUENCY
MLH1	MLH1	IHC	Negative	8 50.00%
MMR alteration	MMR		No evidence of MMR alteration	8 50.00%
MSH2	MSH2	IHC	Negative	8 50.00%
MSH6	MSH6	IHC	Negative	8 50.00%
PMS2	PMS2	IHC	Negative	8 50.00%

2 Back to Search

1

[HCM-BROD-0014-C71](#)
[Model 11 of 16](#)
[HCM-CSHL-0062-C18](#)

In box 1, users may navigate to the previous or next individual model pages within the filtered list by clicking on the left/right arrows at the top or bottom of the page.

To return to the search results, users may select the “Back to Search” button located at the top and bottom of the page (box 2).

Return to [Table of Contents](#)

Viewing Individual Model Data

Human Cancer Models Initiative

Searchable Catalog

Model HCM-CSHL-0057-C18

< HCM-BROD-0014-C71

Model 11 of 15

HCM-CSHL-0062-C18 >

< BACK TO SEARCH

4

Model Details

SHARE

ADD MODEL TO MY LIST 3

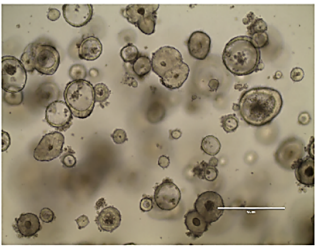
GROWTH RATE	N/A	CHEMOTHERAPEUTIC DRUG LIST AVAILABLE	Yes	ACQUISITION SITE	Sigmoid colon
NAME	HCM-CSHL-0057-C18	NEOADJUVANT THERAPY	Yes, pharmaceutical treatment	CLINICAL STAGE GROUPING	Stage IVA
SPLIT RATIO	N/A	MOLECULAR CHARACTERIZATIONS	N/A	HISTOLOGICAL GRADE	GB
TYPE	3-D: Organoid	PRIMARY SITE	Colon	CLINICAL TUMOR DIAGNOSIS	Colorectal cancer
		TNM STAGE	T3N1cM1a	HISTOLOGICAL TYPE	Adenocarcinoma

Patient Details

Repository Status

Model Images

AGE AT DIAGNOSIS (YEARS)	68	DATE UPDATED	February 25, 2019
AGE AT ACQUISITION (YEARS)	69	DATE OF AVAILABILITY	December 31, 2018
DISEASE STATUS	N/A	LICENSING REQUIRED	Yes
GENDER	Male	DATE CREATED	December 03, 2018
RACE	White	External Resources	
THERAPY	Cytotoxic chemotherapy	MODEL	Link to Source
VITAL STATUS	N/A	ORIGINAL SEQUENCING FILES	N/A



Scale-bar length: 400 µm | Magnification: 10 x | Passage Number: 0

Variants

5 CLINICAL SEQUENCING

6 HISTOPATHOLOGICAL BIOMARKERS

7 GENOMIC SEQUENCING

Showing 1 - 5 of 5 Variants

8

Filter

TSV

NAME	GENE(S)	ASSESSMENT TYPE	EXPRESSION LEVEL	FREQUENCY
MLH1	MLH1	IHC	Negative	8 53.33%
MMR alteration	MMR		No evidence of MMR alteration	8 53.33%
MSH2	MSH2	IHC	Negative	8 53.33%
MSH6	MSH6	IHC	Negative	8 53.33%
PMS2	PMS2	IHC	Negative	8 53.33%

< Back to Search

< HCM-BROD-0014-C71

Model 11 of 15

HCM-CSHL-0062-C18 >

Individual models are added to the “My Model List” by clicking [ADD MODEL TO MY LIST](#) (box 3). To view and download the saved models, click the “My Model List” icon  (box 4).

The “CLINICAL SEQUENCING” tab (box 5) shows available clinical sequencing variant information from the clinical record.

The “HISTOPATHOLOGICAL BIOMARKERS” tab (box 6) shows the results of reported clinical histopathological biomarkers collected from the clinical record.

The “GENOMIC SEQUENCING” tab (box 7) shows the available genomic sequencing data.

Users may filter the “Variants” information by entering querying text (e.g. MSH6, TP53, etc.) and download the information by clicking the [TSV](#) icon (box 8).

Return to [Table of Contents](#)

7

Feedback and Bug Reporting

1. Users may provide feedback or report bugs directly to the Office of Cancer Genomics by emailing:
ocg@mail.nih.gov

Return to [Table of Contents](#)

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Reviewed by:	Cindy Kyi	1/9/2019
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