

2 - Searching the Biospecimen Research Database 3.2

This section introduces you to the procedures for searching the Biospecimen Research Database. It includes the following topics:

- [Search Overview](#)
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- [Browsing by Pre-analytical Factor](#)
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- [Commenting on a Paper](#)
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- [Citing the BRD](#)

Search Overview

You can search the Biospecimen Research Database (BRD) to find research papers and studies that match criteria you specify. Each published paper is associated with one or more studies that address specific experimental questions. If you do not narrow your search by selecting search criteria, then all studies in the database will be returned as search results.

You can search the BRD in the following ways.

- [Simple Search Overview](#)
- [Advanced Search Overview](#)
- [Browse by Analyte Overview](#)
- [Browse by Pre-analytical Factor Overview](#)



You do not need to log in or have an account to search the Biospecimen Research Database.

From the BRD home page, all search options appear when you click the **Search** tab.

National Cancer Institute
at the National Institutes of Health | www.cancer.gov

BRD Biospecimen Research Database
BBRB Biorepositories and Biospecimen Research Branch
CDP Cancer Diagnosis Program
DCTD Division of Cancer Treatment and Diagnosis

? help

Home
Search
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BBRB

Biospecimen Research Database

Welcome to a newly released version of the Biospecimen Research Database (BRD)!

The BRD is a free and publicly accessible literature database that contains peer-reviewed primary and review articles in the field of human Biospecimen Science. Each entry has been created by a Ph.D. level scientist to capture the following: (1) relevant parameters that include the biospecimen investigated (type and location, patient diagnosis), preservation method, analyte(s) of interest and technology platform(s) used for analysis; (2) the pre-analytical factors investigated, including those relating to pre-acquisition, acquisition, preservation, processing, storage, and analysis; and (3) an original summary of relevant results.

New features include a dynamic homepage, enhanced search options (such as keyword search), and user commenting. Users are encouraged to browse the BRD's contents or submit specific queries using the Advanced Search page. The Advanced Search option includes both drop down menus and a keyword search that can be used to retrieve entries for a specific biomarker or gene, PubMed ID, scientific journal, or pre-analytical factor value (such as a specific anticoagulant, fixative, reagent, etc.).

A login is not required; simply click "Search" to begin.

Paper suggestions are encouraged and may be submitted by clicking on the "Suggest a New Paper Tab". Feedback is welcome and may be submitted to biospecimens@mail.nih.gov. The BRD is an initiative of the NCI Biorepositories and Biospecimen Research Branch (BBRB).

News and Announcements

2014-11-03
New Review from BBRB: How well do you know your FFPE specimen?
 A new review summarizing the effects of FFPE processing factors on nucleic acid, protein, and morphological endpoints appears in the November 2014 issue of Arch Pathol Lab Med. The review was drafted using references housed in the BRD.
[Click here to read the article.](#)
[Click here to read the accompanying editorial.](#)

2014-10-15
ISBER Biospecimen Science Literature Compilation
 The ISBER Biospecimen Science Working Group has compiled hundreds of biospecimen science references from both the clinical and the environmental sectors: [click here!](#)

[More...](#)

Featured Paper

Blood cell origin of circulating microRNAs: a cautionary note for cancer biomarker studies.
 Author(s): Pritchard CC, Kroh E, Wood B, Arroyo JD, Dougherty KJ, Miyaji MM, Tait JF, Tewari M
 Publication: *Cancer Prev Res (Phila)*, 2012, Vol. 5, Page 492-7

Recently Added

Human formalin-fixed paraffin-embedded tissues: an untapped specimen for biomonitoring of carcinogen DNA adducts by mass spectrometry

The home page also contains a News and Announcements section, a Featured Paper identified by a BRD Curator, and lists of papers that have been added recently as well as those that were recently viewed by you. A Twitter feed from the NCI Biospecimens account is also displayed. If you want to share information on the BRD, compose a new tweet via your personal Twitter account using the #BRD hashtag.

Tweets

NCI Biospecimens
20 Jan

@NCIBiospecimens

#BRD David 2014: Gene expression profiles are sig. altered after 10 min of warm or cold ischemia
1.usa.gov/1unW0Mk

NCI Biospecimens
30 Dec

@NCIBiospecimens

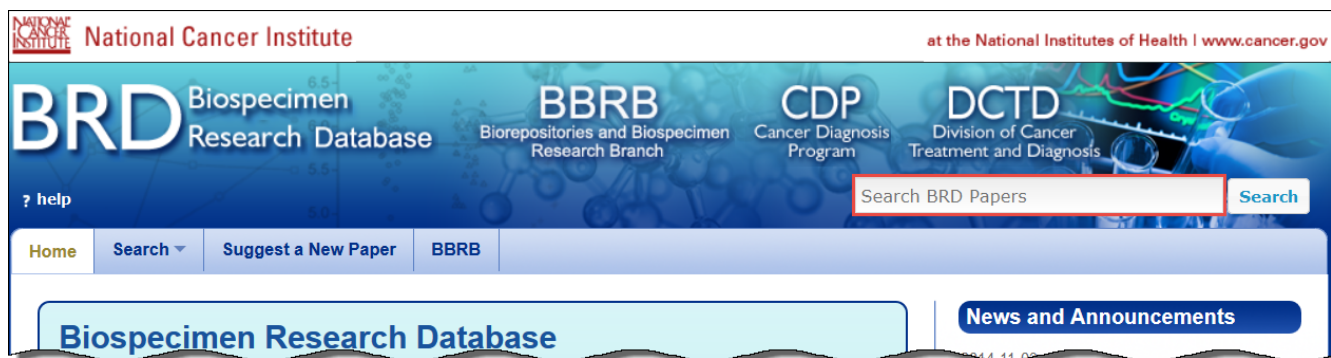
Dvine 2014: Previously identified leukemia-specific gene exp. changes occur with delayed processing of

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Simple Search Overview

Located in the top right portion of the header on every BRD page, is a keyword search box labeled **Search BRD Papers**. You can search very quickly for any paper in the BRD by using any keyword including paper information, authors, free text, biospecimen location or type, or pre-analytical factor.

The Simple Search is highlighted in red in the screenshot below.



Advanced Search Overview

An Advanced Search includes all possible search criteria in a query format. This is the default search method. For more information, see [Conducting an Advanced Search](#).

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Search the Biospecimen Research Database: Advanced Search

Keyword(s)

Increase specificity with multiple words, separated by spaces, or search operators (AND, OR, NOT, etc.). Searching by full gene names is advised.

Specimen

Biospecimen Type

Any

Cell

Fluid

Tissue

Biospecimen Location

Any

Adenoid

Adipose

Adrenal Gland

Amniotic Fluid

Diagnosis

Any

AIDS/HIV-related

Alzheimer's Disease

Amyotrophic Lateral Sclerosis

Arteriosclerosis

Diagnosis Subcategory

Any

Benign

Carcinoma

Germ Cell

Leukemia

Preservative Type

Any

Ethanol

Formalin

Frozen

None (Fresh)

Platform

Analyte

Any

Carbohydrate

Cell count/volume

DNA

Electrolyte/Metal

Technology Platform

Any

1D/2D gels

Amino acid analyzer

Antibody microarray

Antiglobulin test

Author(s)

Enter the author's name(s) in the format of last name followed by first initial (first initial is optional). Separate authors' names by a comma. Examples: Smith J, Doe L

Paper Type

Review ☐
Non-review ☐
All ☒

Pre-analytical Factors

Classification

Any

Preacquisition

Biospecimen Acquisition

Biospecimen Aliquots and Components

Biospecimen Preservation

Factor

Any

Aliquot sequential collection

Aliquot size/volume

Analyte isolation method

Analyte purification

Browse by Analyte Overview

The **Browse by Analyte** search option displays the contents of the BRD in a table that is organized by both the analyte investigated and the biospecimen type and location used for analysis. The numbers within the table contain links to search results that correspond to the biospecimen type/location and analyte selected. From the Search Results page, you can toggle between results for other analytes for a given biospecimen type and location without the need to return to the **Browse by Analyte** page. For more information, see [Browsing by Analyte](#).

HomeSearch ▾Suggest a New PaperBBRB

Advanced SearchBrowse by AnalyteBrowse by Pre-analytical FactorSearch SOPsSOP Compendiums

Browse by Analyte

Select a Biospecimen Type: Any ▾

Choose a Biospecimen Type to narrow the list of Biospecimen Locations displayed below

Enter a Biospecimen Location: Clear

or search directly for a Biospecimen Location.

Biospecimen		Analyte						
Location	Type	DNA	RNA	Peptide	Protein	Morphology	Cell count/ volume	Other*
Amniotic Fluid	Bodily Fluid	0	0	0	1	0	0	0
Aqueous Humor	Bodily Fluid	0	0	0	1	0	0	0
Bile	Bodily Fluid	0	0	0	1	0	0	0
Blood	Bodily Fluid	77	90	146	517	156	257	542
Bone Marrow	Bodily Fluid	1	2	0	0	0	0	0
Bronchial Lavage	Bodily Fluid	0	1	0	0	0	0	0
Buffy Coat	Bodily Fluid	8	3	1	4	0	6	3
Cerebrospinal Fluid	Bodily Fluid	0	0	7	9	0	3	4

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Browse by Pre-analytical Factor Overview

The Browse by Pre-analytical Factor search option displays the contents of the BRD in a table that is organized by the experimental questions addressed (pre-analytical factor) and the biospecimen type/location used for analysis. Due to the large number of pre-analytical factors captured by the BRD, the table can be restricted by selecting a Classification or directly entering a pre-analytical factor. The number links in the table represent all of the relevant papers in the BRD for the corresponding pre-analytical factor listed in the row. For more information, see [Conducting a Pre-analytical Factor Search](#).

[Home](#)[Search](#)[Suggest a New Paper](#)[BBRB](#)

[Advanced Search](#)[Browse by Analyte](#)[Browse by Pre-analytical Factor](#)[Search SOPs](#)[SOP Compendiums](#)

Browse by Pre-analytical Factor

Select a Classification:

Any

Choose a Classification to narrow the list of Pre-analytical Factors displayed below

Enter a Pre-analytical Factor:

Clear

or search directly for a Pre-analytical Factor.

Pre-analytical Factor	Classification	Bodily fluids					Cells/Tissue
		Blood	Serum	Plasma	Urine	Saliva	
Anesthesia	Preacquisition	4	2	0	0	0	1
Antibiotic	Preacquisition	0	0	0	0	0	0
Biomarker level	Preacquisition	60	38	40	8	0	9
Blood loss amount	Preacquisition	0	0	0	0	0	3
Blood pressure	Preacquisition	3	1	1	0	0	1
Cause of death	Preacquisition	0	0	0	0	0	6
Diagnosis/ patient condition	Preacquisition	197	99	104	13	3	113
Duration of anesthesia	Preacquisition	1	0	1	0	0	0

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Conducting a Simple Search

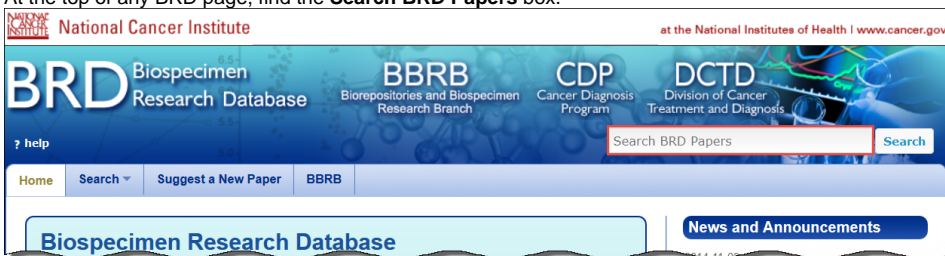
You can conduct a Simple Search for a paper from any BRD page. Enter any keyword associated with the area of interest (such as a tissue type, diagnosis, biomarker, fixative, anticoagulant, and so on) or a specific paper (such as the PubMed ID, title, journal, year, and so on). Note that gene symbol use within the BRD is not standardized and it is recommended that you search using the full gene name. Also, if you are searching for a specific author, use the Author(s) search option on the [Advanced Search](#) page. Specificity can be increased by including multiple words with or without search operators. If using multiple search operators, use parentheses to control query logic. Search operators that are supported by Simple Search, example queries, and their anticipated results are summarized in the table below.

Simple Search Operators	Example	Results
Double quotes (" ") will return curations that contain the exact phrase quoted.	"sodium heparin"	Curations containing the exact phrase sodium heparin
Including AND or + between search phrases will return curations that contain both search phrases. If more than one search term is entered, this search operator will be applied as the default.	formalin AND paraffin or formalin + paraffin or formalin paraffin	Curations containing both formalin and paraffin
Including OR between search phrases will return curations that contain either search term.	frozen OR fresh	Curations containing either frozen or fresh
Including NOT or - (minus) between search terms will return curations that do not contain the term that follows the operator. This operator must be used with a search term that will return results.	immunohistochemistry NOT "tissue microarray"	Curations containing immunohistochemistry but not tissue microarray

An asterisk (*) is a <i>wild-card</i> search operator that can replace any number of characters in a search term. It can be used in the beginning, middle or end of a search term.	freeze-thaw cycl*	Curations containing either freeze-thaw cycle , freeze-thaw cycles , or freeze-thaw cycling
A question mark (?) is a <i>wild-card</i> search operator that replaces a single character in the search term. It can be used in the beginning, middle or end of a search term. Multiple question marks can also be used within a single search term.	K?EDTA	Curations containing the term K2EDTA or K3EDTA
A tilde (~) is a search operator that will return terms that are spelled similarly to the term that prefaces it. It should follow a single word search term.	anesthesia~	Curations containing the terms anesthesia , anesthesia , or anesthetized
Search operators can be used together and parentheses can be used to group queries.	circulating AND (microRNA OR miRNA)	Curations containing circulating and either microRNA or miRNA
The proximity of two search terms to one another can be specified by placing the terms in quotations followed by a tilde (~) and the number of words allowable.	"circulating DNA"~2	Curations containing circulating DNA , circulating cell free DNA or circulating cell-free DNA .
Prefacing a search phrase with pubMedId: will limit the query for the search phrase to the PubMed ID field.	pubMedId: 24486652	A single curation with the PubMed ID 24486652
Prefacing a search phrase with title: will limit the query for the search phrase to the Paper Title field.	title: hemoglobin	Curations that contain the word hemoglobin in the paper's title
Prefacing a search phrase with publicationName: will limit the query for the search phrase to the Journal of publication field.	publicationName: Biopreserv Biobank	Curations that were published in the journal Biopreserv Biobank
Prefacing a search phrase with curatorPurpose: will limit the query for the search phrase to the Purpose of Paper field.	curatorPurpose: "storage temperature"	Curations that contain the exact phrase storage temperature in the Purpose of Paper field.
Prefacing a search phrase with curatorConclusion: will limit the query for the search phrase to the Conclusion of Paper field.	curatorConclusion: clinically relevant	Curations that contain the words clinically and relevant in the Conclusion of Paper field.
Prefacing a search phrase with purpose: will limit the query for the search phrase to the Study Purpose field.	purpose: ischemia	Curations that contain ischemia in the Study Purpose field.
Prefacing a search phrase with summaryOfFindings: will limit the query for the search phrase to the study's Summary of Findings field.	summaryOfFindings: statistically significant	Curations that contain the words statistically and significant in the Summary of Findings field.

To conduct a Simple Search

1. At the top of any BRD page, find the **Search BRD Papers** box.



2. Enter text relevant to a specific paper or your area of interest into the box. You can enter any keyword or multiple keywords separated by a space.

3. Press **Enter** or click **Search**. The search results page appears.

The screenshot shows the search results page for the keyword "biopsy". The page has a navigation bar with links: Home, Search (selected), Suggest a New Paper, and BBRB. Below the navigation bar are links for Advanced Search, Browse by Analyte, Browse by Pre-analytical Factor, Search SOPs, and SOP Compendiums. The search results section shows "Search results for: biopsy" and a search box containing "biopsy". A checkbox for "Limit search to experimental comparisons" is unchecked. Below the search box is a message: "Increase specificity with multiple words, separated by spaces, or search operators (AND, OR, NOT, etc.). Searching by full gene names is advised." The results are displayed in a table with columns: Pages, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, ..., 16, 17, and Next. The first result is highlighted: "102 studies (81 papers) found". The first study is titled "Surgical procedures and postsurgical tissue processing significantly affect expression of genes and EGFR-pathway proteins in colorectal cancer tissue." The author(s) are David KA, Unger FT, Uhlig P, Juhl H, Moore HM, Compton C, Nashan B, Dörner A, de Weerth A, Zornig C. The publication is Oncotarget, 2014, Vol. 5, Page 11017-28. The study purpose is: "The purpose of this study was to determine the effects of warm ischemia and cold ischemia on the quantification of phosphorylated protein, IHC staining, and gene expression profiles of CRC, liver metastases, and normal adjacent tissue. Colon specimens from 50 patients and liver specimens from 43 patients were collected for the study. 40 snap frozen specimens (vapor phase of liquid nitrogen) were used for the quantification of phosphorylated protein, while IHC analysis was performed on an unspecified number of formalin-fixed, paraffin-embedded (FFPE) specimens (fixed for 16-72 hours). RNA was extracted using phenol chloroform and the Qiagen RNeasy MinElute Cleanup Kit. Gene expression analysis was performed using snap frozen specimens with RNA integrity numbers >7 and GeneChip Human Genome U133 Plus 2.0 arrays." The specimens are Tissue - Liver, Tissue - Colorectal. The preservation types are Formalin, Frozen. The diagnoses are Neoplastic - Normal Adjacent, Neoplastic - Carcinoma. The platforms are Protein - ELISA, Protein - Immunohistochemistry, RNA - Bioanalyzer.

4. To make your search more specific, you may opt to select the **Limit search to experimental comparisons** box. This limits the search fields to Pre-analytical Factors and their values. For example, if you entered the term *biopsy* as a keyword and you limited your search to experimental comparisons, the search results would immediately refresh to show you only those papers in which *biopsy* was compared to other biospecimen procurement methods.

The screenshot shows the search results page for the keyword "biopsy" with the "Limit search to experimental comparisons" checkbox checked. The search results section shows "Search results for: biopsy" and a search box containing "biopsy". A checkbox for "Limit search to experimental comparisons" is checked. Below the search box is a message: "Increase specificity with multiple words, separated by spaces, or search operators (AND, OR, NOT, etc.). Searching by full gene names is advised." The results are displayed in a table with columns: Pages, 1, 2, 3, 4, 5, 6, 7, 8, and Next. The first result is highlighted: "39 studies (38 papers) found". The first study is titled "Surgical procedures and postsurgical tissue processing significantly affect expression of genes and

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Conducting an Advanced Search

An Advanced Search of the Biospecimen Research Database provides you with the most control over search criteria and results in comparison to other search options.

When specifying search criteria in the Biospecimen Research Database, there are no required fields. You can add as much detail or only those criteria that you consider essential to the search. You can also select multiple search terms in the same list by selecting the first item, pressing and holding **Ctrl**, and then selecting the next item(s).



If you don't specify any criteria, all entries in the BRD appear in the search results.



If a paper you are looking for is not in the BRD, you can [suggest a new paper](#).

To conduct an Advanced Search

1. Click **Advanced Search**, which is located under the **Search** tab. The Advanced Search page appears.

[Home](#) [Search](#) [Suggest a New Paper](#) [BBRB](#)

[Advanced Search](#) [Browse by Analyte](#) [Browse by Pre-analytical Factor](#) [Search SOPs](#) [SOP Compendiums](#)

Search the Biospecimen Research Database: Advanced Search

Keyword(s)

Increase specificity with multiple words, separated by spaces, or search operators (AND, OR, NOT, etc.). Searching by full gene names is advised.

Specimen

Biospecimen Type

Any
Cell
Fluid
Tissue

Biospecimen Location

Any
Adenoid
Adipose
Adrenal Gland
Amniotic Fluid

Diagnosis

Any
AIDS/HIV-related
Alzheimer's Disease
Amyotrophic Lateral Sclerosis
Arteriosclerosis

Diagnosis Subcategory

Any
Benign
Carcinoma
Germ Cell
Leukemia

Preservative Type

Any
Ethanol
Formalin
Frozen
None (Fresh)

Platform

Analyte

Any
Carbohydrate
Cell count/volume
DNA
Electrolyte/Metal

Technology Platform

Any
1D/2D gels
Amino acid analyzer
Antibody microarray
Antiglobulin test

Author(s)

Enter the author's name(s) in the format of last name followed by first initial (first initial is optional). Separate authors' names by a comma. Examples: Smith J, Doe L.

Paper Type

Review ☐ Non-review ☐ All ☒

Pre-analytical Factors

Classification

Any
Preacquisition
Biospecimen Acquisition
Biospecimen Aliquots and Components
Biospecimen Preservation

Factor

Any
Aliquot sequential collection
Aliquot size/volume
Analyte isolation method
Analyte purification

[Search](#) [Clear](#)



2. For maximum search accuracy, specify search criteria by clicking items in the lists.
 - **To select multiple fields in the same list, click the first field, press and hold the CTRL key, and then click additional fields.** The fields you select are highlighted and your search results contain all studies matching any of the fields. For example, if you select both the Cell and Fluid biospecimen types, your search results contain all studies that concern either cells or fluid.
 - When you select fields from different lists, you narrow your search. For example, if you select the Cell biospecimen type and the Kidney biospecimen location, your search results include studies that concern *both* cells and kidneys.




Note that the selections you make in the lists on the left determine the selections in the lists on the right. For example, selecting the Biospecimen Type “Fluid” makes “Blood” an available Biospecimen Location.

The following table describes the Advanced Search criteria.

Advanced Search Criteria	Description
<i>Specimen</i>	
Biospecimen Type	Select the type of biospecimen (Tissue/Fluid/Cell).
	Select the bodily location from which the biospecimen was obtained.

Biospecimen Location	
Diagnosis	Select the term that identifies the nature of a disease or condition associated with the biospecimen.
Diagnosis Subcategory	Select the diagnosis subdivision that differentiates the disease within the larger category. <div>  Diagnosis Subcategory is only available for the diagnosis "neoplastic." </div>
Preservative Type	Select the substances added to the biospecimen, or other treatment to protect it from chemical change or microbial action.
Platform	
Analyte	Select the analyte, or endpoint that was qualitatively or quantitatively examined in the biospecimen. Select "Morphology" for macro- and microscopic analysis.
Technology Platform	Select the specific technology used to analyze the biospecimen.
Author(s)	Enter the author's name(s) in the format of last name followed by first initial (first initial is optional). Separate authors' names by a comma. Use " * " as wildcard. Examples: Smith J, Doe L <div>  If an author's name has a special character in it, be sure to include that special character in your keyword search. You can only use special characters included in the UTF-8 character set. </div>
Paper Type	Select among the paper type options: Review, Non-review, or All. If you do not select any search criteria prior to clicking the Search button, the search uses Paper Type: All as its default search criterion.
Pre-analytical Factors	
Classification	The type of biospecimen handling variable that was the subject of the study (pre-acquisition, post-acquisition, or platform specific)
Factor	The specific pre-analytical factor that was the subject of the study (e.g., the post-acquisition variable, "type of fixative," is a specific pre-analytical factor in a study that examines the effects of different types of tissue fixatives on molecular analysis).

3. If you want to search for items not present in the drop-down lists such as specific genes or biomarkers, enter those items in the **Keyword** box. Multiple words can be entered with or without a search operator to increase specificity. See [Conduct a Simple Search](#) for a list of supported search operators. This search method searches all fields including paper information, authors, summary fields, and Pre-analytical Factors and their values. The keyword search can be used together with other fields on the Advanced Search page.

 Gene symbol use is not standardized, so search by the full gene name.

4. Click the **Search** button. Studies in the BRD that match your search criteria appear.

[Advanced Search](#)
[Browse by Analyte](#)
[Browse by Pre-analytical Factor](#)
[Search SOPs](#)
[SOP Compendiums](#)

Advanced Search Results

Search Criteria:

Keyword(s): estrogen receptor

Biospecimen Type: Tissue

Biospecimen Location: Breast

Diagnosis: Neoplastic

Diagnosis Subcategory: Carcinoma

Paper Type: Non-review

Classification: Biospecimen Acquisition

Pre-analytical Factor: Cold ischemia time

Advanced Search criteria

Pages: 1 2 3 Next →

14 studies (13 papers) found

Relevant papers and studies

Preanalytical variables and phosphopeptide expression in FFPE tissue: quantitative epitope assessment after variable cold ischemic time.

Author(s): Vassilakopoulou M, Parisi F, Siddiqui S, England AM, Zarella ER, Anagnostou V, Kluger Y, Hicks DG, Rimm DL, Neumeister VM

Publication: *Lab Invest*, 2014, Vol. , Page

PubMed

Found in 1 study(s)

i. **Study Purpose:**

The purpose of this study was to determine the effects of cold ischemia time on the antigenicity of 11 phosphoproteins in FFPE breast cancer tissue. A tissue microarray containing 93 breast cancer specimens (in duplicate) with a range of known cold ischemia times (25-415 min) was evaluated and quantitative immunofluorescence was performed. Automated image analysis method, All-in-One, was used to analyze the data. The results showed that the duration of cold ischemia time significantly affected the antigenicity of the phosphoproteins.

5. Page through the results or click any blue link to see study details.


On the search results page, you can:

- View a summary of all of the studies matching your search criteria.
- Click the paper title hyperlink to [view detailed information about the paper](#).
- Click the Study Purpose hyperlink to view detailed information about the study.



Show and Hide Study Details

Paper and study details are both on the Paper Details page. Click View More or View Less to show or hide the study details.

- Click  to view that paper's listing in PubMed in a new browser window.
- Click **most recent search results** link at the top left of the page to return to the search page and search criteria you last used.
- Comment on the paper or study listed on the page by registering with [Disqus](#) or logging in with a social media account.

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Browsing by Analyte

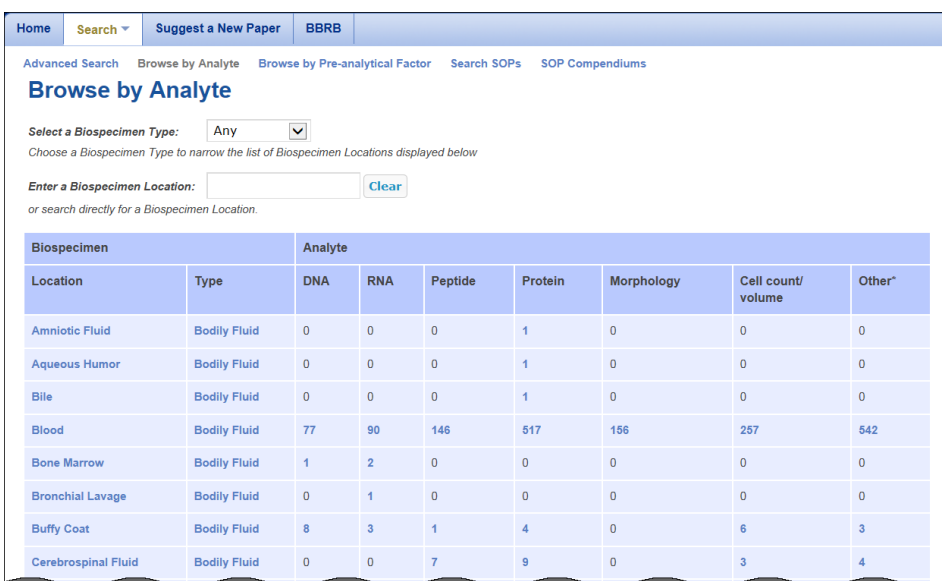
When you browse the BRD by analyte, you can navigate between analytes for a given biospecimen location by clicking a number link in the table.



If a paper you are looking for appears to be missing, first [run an Advanced Search](#) and then consider [suggesting a new paper](#).

To browse by analyte

1. Click **Browse by Analyte**, which is located under the **Search** tab. The Browse by Analyte page appears, displaying all of the papers in the BRD within a table that is organized by biospecimen type and location and analyte(s) investigated.




Biospecimen		Analyte						
Location	Type	DNA	RNA	Peptide	Protein	Morphology	Cell count/volume	Other*
Amniotic Fluid	Bodily Fluid	0	0	0	1	0	0	0
Aqueous Humor	Bodily Fluid	0	0	0	1	0	0	0
Bile	Bodily Fluid	0	0	0	1	0	0	0
Blood	Bodily Fluid	77	90	146	517	156	257	542
Bone Marrow	Bodily Fluid	1	2	0	0	0	0	0
Bronchial Lavage	Bodily Fluid	0	1	0	0	0	0	0
Buffy Coat	Bodily Fluid	8	3	1	4	0	6	3
Cerebrospinal Fluid	Bodily Fluid	0	0	7	9	0	3	4

2. To search the database, do one of the following
 - a. If you only want to see results of one biospecimen type, choose it from the Select a Biospecimen Type list. The table immediately refreshes to show only those biospecimen locations and results for that biospecimen type. Specifying this filter option narrows your search.
 - b. If you want to search directly for one biospecimen location, type it into the **Enter a Biospecimen Location** box. The table immediately refreshes to show only those results for that biospecimen location. Specifying this filter option narrows your search.
 - c. Click a number link as explained in the following table.

Click a link in the...	To see...
Biospecimen columns	all research studies in the database that involve that biospecimen location or type

Analyte columns	all research studies in the database that involve that analyte
Body of the table	all research studies in the database that involve the unique combination of biospecimen location, biospecimen type, and analyte in that table row. The numerical link corresponds to the number of research papers that fulfill the search criteria combination.

 The numerical links do not add up to the total number of papers in the database. Each cell represents only the number of papers that meet the specified search criteria in this table. Many other search criteria can be accessed by conducting an Advanced Search.

Studies that match of the criteria you selected appear in the table.

Advanced Search Browse by Analyte Browse by Pre-analytical Factor Search SOPs SOP Compendiums

Browse by Analyte

Select a Biospecimen Type: Bodily Fluid

Choose a Biospecimen Type to narrow the list of Biospecimen Locations displayed below

Enter a Biospecimen Location: Clear

or search directly for a Biospecimen Location.

Search results refresh automatically

Biospecimen		Analyte						
Location	Type	DNA	RNA	Peptide	Protein	Morphology	Cell count/volume	Other*
Amniotic Fluid	Bodily Fluid	0	0	0	1	0	0	0
Aqueous Humor	Bodily Fluid	0	0	0	1	0	0	0
Bile	Bodily Fluid	0	0	0	1	0	0	0
Blood	Bodily Fluid	79	90	146	517	156	257	542
Bone Marrow	Bodily Fluid	1	2	0	0	0	0	0
Bronchial Lavage	Bodily Fluid	0	1	0	0	0	0	0
Buffy Coat	Bodily Fluid	8	3	1	4	0	6	3
Cerebrospinal Fluid	Bodily Fluid	0	0	7	9	0	3	4
Feces	Bodily Fluid	1	0	0	0	0	0	0
Other	Bodily Fluid	0	2	0	1	0	1	0

3. Click a link in the table, either a biospecimen location or a number. Note that in the screenshot above, the biospecimen type is not selectable because the previous search resulted in showing only those papers involving one biospecimen type. The studies matching your selection appear. Note that your search criteria appear above the list of papers and studies.

Home Search ▾ Suggest a New Paper BBRB

Advanced Search Browse by Analyte Browse by Pre-analytical Factor Search SOPs SOP Compendiums

Browse by Analyte

Browse by "DNA"

Type: Bodily Fluid
Location: Plasma
Analyte: DNA (43)

Pages: 1 2 3 4 5 6 7 8 9 Next →

51 studies (43 papers) found

Stability of cell-free DNA from maternal plasma isolated following a single centrifugation step.

Author(s): Barrett AN, Thadani HA, Laureano-Asibal C, Ponnusamy S, Choolani M

Publication: *Prenat Diagn*, 2014, Vol. 34, Page 1283-8

 Found in 2 study(s)

Study Purpose:
The purpose of this study was to determine the effects of DNA extraction method on levels of total, maternal and fetal circulating cell-free DNA in plasma. Plasma was obtained by repeat centrifugation of blood collected from 10 pregnant women carrying a male fetus in K3EDTA vacutainers. Plasma was then frozen in Lo-Bind tubes at -80°C until extraction.

Specimens: Fluid - Plasma Preservation Types: Frozen Diagnoses: Pregnant

Platforms:

4. Page through the results or click any blue link to see study details. Note that you can filter your results by selecting an analyte from the Analyte list.

On the search results page, you can:


- View a summary of all of the studies matching your search criteria.
- Click the paper title hyperlink to [view detailed information about the paper](#).
- Click the Study Purpose hyperlink to view detailed information about the study.





Show and Hide Study Details

Paper and study details are both on the Paper Details page. Click View More or View Less to show or hide the study details.

- Click  to view that paper's listing in PubMed in a new browser window.
- Click the **most recent search results** link at the top left of the page to return to the search page and search criteria you last used.
- Comment on the paper listed on the page by registering with [Disqus](#) or logging in with a social media account.

[Return to top of page](#)

Browsing by Pre-analytical Factor

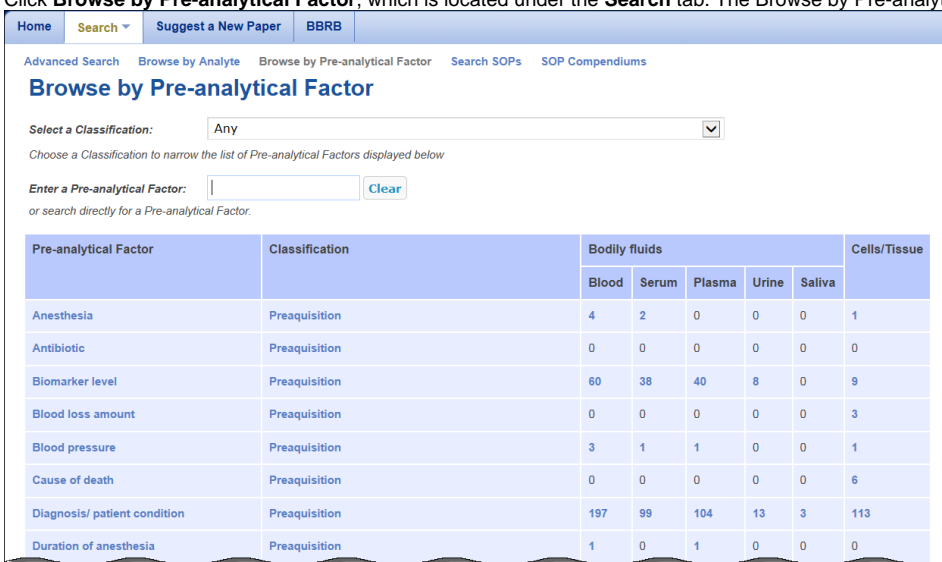
Browsing by Pre-analytical Factor allows you to find research studies corresponding to selected Pre-analytical Factors.



If you are not able to find a specific paper, first [run an Advanced Search](#) and then consider [suggesting a new paper](#).

To browse by Pre-analytical Factor


1. Click **Browse by Pre-analytical Factor**, which is located under the **Search** tab. The Browse by Pre-analytical Factor page appears.



Pre-analytical Factor	Classification	Bodily fluids					Cells/Tissue
		Blood	Serum	Plasma	Urine	Saliva	
Anesthesia	Preacquisition	4	2	0	0	0	1
Antibiotic	Preacquisition	0	0	0	0	0	0
Biomarker level	Preacquisition	60	38	40	8	0	9
Blood loss amount	Preacquisition	0	0	0	0	0	3
Blood pressure	Preacquisition	3	1	1	0	0	1
Cause of death	Preacquisition	0	0	0	0	0	6
Diagnosis/ patient condition	Preacquisition	197	99	104	13	3	113
Duration of anesthesia	Preacquisition	1	0	1	0	0	0

2. To search the database, do one of the following
 - a. If you only want to see results of one Classification, select it from the first list. The table immediately refreshes to show only Pre-analytical Factors assigned to that classification and results for each of those Pre-analytical Factors. Note that selecting an option here narrows your search and gives you fewer results.
 - b. If you only want to search directly for one Pre-analytical Factor, enter that term or factor in the text box. The table immediately refreshes to show results only for that term or Pre-analytical Factor. Note that all Classifications will be screened for the term or factor. Also, selecting an option here also narrows your search and gives you fewer results.
 - c. Click a number link as explained in the following table.

Click a link in the...	To see...
Pre-analytical Factor column	all research papers and studies in the database that involve that Pre-analytical Factor
Classification column	all research papers and studies in the database that involve that Classification
Body of the table	all research papers and studies in the database that involve a unique combination of Pre-analytical Factor, Classification, and either bodily fluid or cells/tissue in that table row. The numerical link corresponds to the number of papers that fulfill the search criteria combination.

 The numerical links do not add up to the total number of papers in the database. Each cell represents only the number of papers that meet the specified search criteria in this table. Many other search criteria can be accessed by conducting an Advanced Search.

Studies that match of the criteria you selected appear. Note that your search criteria appear above the list of papers and studies.

The screenshot shows the BBRB (Browse by Pre-analytical Factor Results) interface. At the top, there are navigation links: Home, Search, Suggest a New Paper, and BBRB. Below these are links for Advanced Search, Browse by Analyte, Browse by Pre-analytical Factor, Search SOPs, and SOP Compendiums. The main heading is 'Browse by "Anesthesia"'. Below this, a box shows the search criteria: Classification: Preanalysis, Pre-analytical Factor: Anesthesia, and Location: Serum. It indicates '2 studies (2 papers) found'. The first study listed is 'Reference values for venous and capillary S100B in children.' by Astrand R, Romner B, Lanke J, Undén J. The study was published in Clin Chim Acta, 2011, Vol. 412, Page 2190-3. A PubMed logo is shown next to the title. Below the title, it says 'Found in 1 study(s)'. The study purpose is described: 'The purpose of this study was to determine the effects of patient age and gender as well as collection of capillary versus venous specimens on S100B levels in serum. Specimens were frozen at -80 degrees C until analysis.' Other details include Specimens: Fluid - Serum, Fluid - Blood; Preservation Types: Frozen; Diagnoses: Other diagnoses; Platforms: Protein - Clinical chemistry/auto analyzer; and Summary of Findings.

3. Page through the results or click any blue link to see paper or study details.


On the search results page, you can:

- View a summary of all of the studies matching your search criteria.
- Click the paper title hyperlink to [view detailed information about the paper](#).
- Click the Study Purpose hyperlink to view detailed information about the study.



Show and Hide Study Details

Paper and study details are both on the Paper Details page. Click View More or View Less to show or hide the study details.

- Click  to view that paper's listing in PubMed in a new browser window.
- Click the **most recent search results** link at the top left of the page to return to the search results page and search criteria you last used.
- Comment on the paper listed on the page by registering with [Disqus](#) or logging in with a social media account.

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Viewing Paper and Study Details

Once you have searched the database and are viewing your results, click the paper title to open the Paper Details page, where you can view a paper's entire record. Click the Study Purpose and open the Paper Details page at the section for that study's details.

The screenshot shows the Paper Details page for the study 'Effect of pre- and postmortem variables on specific mRNA levels in human brain.' by Burke W J, O'Malley K L, Chung H D, Harmon S K, Miller J P, Berg L. The study was published in Brain Res Mol Brain Res, 1991, Vol. 11, Page 37. A PubMed logo is shown next to the title. Below the title, it says 'Found in 1 study(s)'. The study purpose is described: 'Polymerase chain reaction (PCR) was used to investigate which of eight pre- and four postmortem factors affect the stability of PNMT, three splice forms of APP (APP695, APP751, and APP770) and beta-actin mRNAs in the C1 region in the rostral ventral lateral medulla of human autopsy brain.' Other details include Specimens: Tissue - Bra; Preservation Types: Froz; Diagnoses: Autopsy, Not specified; Platforms: DNA - Southern blot; and Summary of Findings: 'The authors report that of the eight premortem variables examined, hypoxia was associated with decreased levels of PNMT and seizure activity was associated with increased levels of APP751. Of the four postmortem variables examined, postmortem interval and storage interval correlated with depressed levels of APP751 and beta-actin. The death refrigeration interval correlated with increased levels of total APP and APP695.' Two red callout boxes are present: one pointing to the paper title with the text 'Click the paper title to open the Paper Details page' and another pointing to the study purpose with the text 'Click the study purpose to open the Paper Details page at the study details section'.

Each paper includes one or more associated studies. Studies are defined as the set(s) of experiments within a paper that investigate different pre-analytical factors, use different analytical platforms for analysis, or explore different biospecimen sample sets. For example, a paper that examines the effect of a biospecimen handling variable on RNA and protein analysis may have two studies in the database, one study describing the results of RNA analysis and one describing the results of protein mass spectroscopy analysis.

On the Paper Details page, you can:

- View complete bibliographic information about the paper.
- View whether the paper is a Review or Nonreview paper.
- Click  to view that paper's listing in PubMed in a new browser window.
- View the paper's purpose and conclusion.
- View a summary of the paper's associated studies.
- Click the **View More** link at the bottom of the page to view additional study details.

You can also choose to expand the page to view all of the study details, including:

- Study Purpose
- Information about biospecimen type and location
- Analyte studied
- Platform used
- Pre-analytical Factors
- Study Findings

You can search the BRD for related studies with the same biospecimen type and location, classification(s), and pre-analytical factor(s) by clicking the links in the study details.

Comparison of microarray analysis of fine needle aspirates and tissue specimen in thyroid nodule diagnosis.

Paper title

Author(s): Kundel A, Zarnegar R, Kato M, Moo TA, Zhu B, Scognamiglio T, Fahey TJ 3rd**Publication:** *Diagn Mol Pathol*, 2010, Vol. 19, Page 9-14**PubMed ID:** 20186006**Review Paper?** No

Purpose of Paper

The purpose of this paper was to determine if collection of thyroid biospecimens by fine needle aspiration (FNA) versus whole tissue affects gene expression quantification by microarray.

Conclusion of Paper

Overall clustering analysis of a 61 gene subset was 100% sensitive, specific and accurate for FNA specimens, and 85.7% specific, 100% sensitive and 92.3% accurate for tissue specimens. In total, 67 genes were found to be differentially expressed among procurement methods, with 6 genes elevated and 61 genes depressed in FNA specimens compared to paired tissue specimens. The authors conclude that ex-vivo FNA can be used for analytical microarray diagnosis with a high degree of accuracy but that there are collection method specific differences in expression not related to diagnostic criteria.

Studies

[Details of the studies associated with this paper](#)

1. Study Purpose

The purpose of this study was to compare gene clustering by microarray technology of thyroid nodule specimens collected by ex-vivo FNA and those from whole tissue.

Summary of Findings:

Expression clustering based on 61 genes known to be differentially expressed between benign and malignant thyroid tumors properly clustered all 13 FNA specimens and 12 tissue specimens with their pathological diagnosis. Overall clustering analysis of FNA specimens was 100% sensitive, specific and accurate. Clustering analysis of whole tissue specimens was 85.7% specific, 100% sensitive and 92.3% accurate, as one tissue specimen improperly clustered as benign which the authors attribute to sampling error or heterogeneity within the tumor. When all gene expression was compared between the two collection methods, 67 genes were found to be differentially expressed. The 6 genes that were elevated in FNA specimens were hemoglobin subgroups and the S100 calcium binding protein A8. The 61 genes that were depressed in FNA specimens were predominantly matrix proteins, laminins and collagens. The authors attribute the differential expression between FNA and tissue specimens to reflect the enrichment of follicular cells in the specimens collected by FNA. The authors conclude that ex-vivo FNA can be used for analytical microarray diagnosis with a high degree of accuracy.

Biospecimens

- [Tissue - Thyroid Gland](#)

[Click this link to browse the BRD by this biospecimen type and location](#)

Preservative Types

- Frozen

Diagnoses:

- Neoplastic - Benign
- Neoplastic - Carcinoma

Platform:

Analyte	Technology Platform
RNA	DNA microarray

[Click these links to browse the BRD by these classifications and pre-analytical factors](#)

Pre-analytical Factors:

Classification	Pre-analytical Factor	Value(s)
Preacquisition	Diagnosis/ patient condition	Benign Malignant

Preaquisition	Surgical procedure type	Fine needle aspiration Tissue resection
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[View less](#)

To return to your search results, click **most recent search results...** at the top of the page.

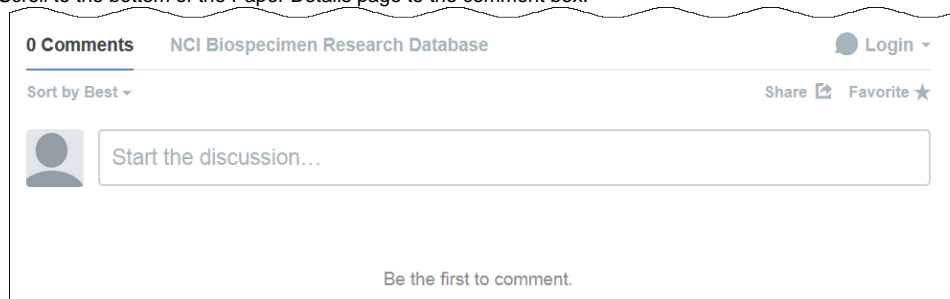
[Return to top of page](#)

Commenting on a Paper

Add a comment to a paper to share your thoughts with others using the BRD. Before you can comment, you must either register with [Disqus](#) or log in with your Facebook, Twitter, or Google account. All comments are subject to moderation by the BRD Curation Team.

To add a comment to a paper

1. Scroll to the bottom of the Paper Details page to the comment box.



Click the arrow next to the Login menu and select the method by which you would like to log in: Disqus, Facebook, Twitter, or Google.

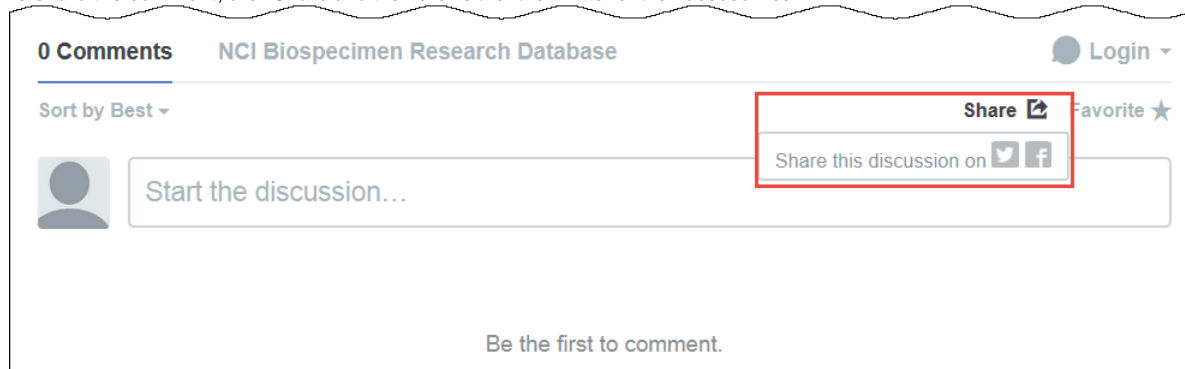


2. Follow the prompts to either create and log in with a Disqus account, log in with an existing Disqus account, or log in with a social media account. If you choose a social media account, you merge that account with Disqus and can log in with those credentials each time you want to comment.
3. In the comment box, enter your comment. If you have not yet logged in, the application prompts you to log in using one of the methods in the previous step.
4. Click **Post** to complete the comment.
5. Optionally, sort the comments, share them on social media, and make the paper a favorite.

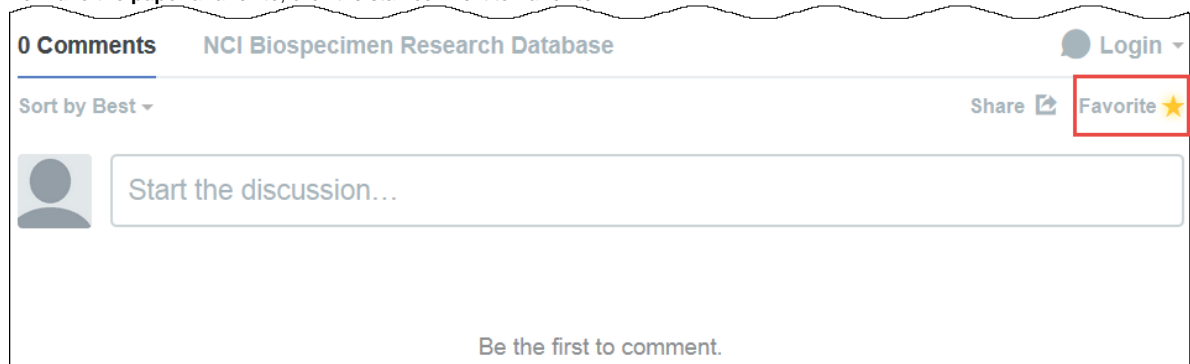
To sort the comments, select one of the following options from the Sort by list:

- Best - Comments with the most votes trending over time.
- Newest - Most recent comments first.
- Oldest - Oldest comments first.

To share the comment, click **Share** and then click either the Twitter or the Facebook icon.



To make the paper a favorite, click the star icon next to **Favorite**.



For more information about using Disqus, see the [Disqus Knowledge Base](#).

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Suggesting a New Paper

If you know of a paper that would be a useful addition to the Biospecimen Research Database, you can suggest it. Paper suggestions are screened against BRD contents to prevent duplication. Curators will review each suggestion and add BRD-appropriate papers to the database.

If you include your email address you will receive an update when your paper suggestion has been added.

To suggest a new paper

1. Click the **Suggest a New Paper** tab. The Suggest a New Paper page appears.

Suggest a New Paper

*Your Name:

*Your Email:

*Organization:

*How do you want your name/organization to be displayed? No Selection

PubMed ID: [Import Paper Data from PubMed](#)

*Paper Title:

*Author(s):

*Journal:

Publication Year:

Volume:

Page Number:

Comments:

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7. If the paper is a review paper, check the box.
8. In the Verification area, enter the characters exactly as you see them. If you cannot see the characters you can click the refresh icon to obtain a new set of characters.
9. Click **Suggest**.

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Citing the BRD

We encourage you to cite the Biospecimen Research Database (BRD) when utilizing the resource to develop written materials including articles and SOPs. When citing the BRD as a resource, we recommend you include the most recent access date as well as the following information:

Database Title:	Biospecimen Research Database
Type of Medium:	Internet
Place of Publication:	Bethesda, MD
Publisher:	Biorepositories and Biospecimen Research Branch, National Cancer Institute
Availability:	http://biospecimens.cancer.gov/brd

An example using the citation style provided by the National Library of Medicine in [Citing Medicine: The NLM Style Guide for Authors, Editors, and Publishers, 2nd edition](#) is below.

Biospecimen Research Database [Internet]. Bethesda (MD): National Cancer Institute, Biorepositories and Biospecimen Research Branch; [cited 2015 Mar 10]. Available from <http://biospecimens.cancer.gov/brd>

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