

# Package ‘msBreast’

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**Type** Package

**Title** Protein Mass Spectra Dataset from a Breast Cancer Study

**Version** 1.0.2

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**Depends** R (>= 2.5.0), RSQLite (>= 0.5-6)

**DependsPlus** RSQLite (>= 0.5-6)

**Suggests** msProcess

**Description** This package provides a dataset of 96 protein mass spectra generated from a pooled sample of nipple aspirate fluid (NAF) from healthy breasts and breasts with cancer.

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**URL** <http://www.insightful.com/services/research/proteome/default.asp>

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`Breast2003QC`*Mass Spectra from a Breast Cancer Quality Control Sample*

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**Description**

A data object of class `msSet`, consisting of 96 mass spectra generated from a pooled sample of nipple aspirate fluid (NAF) from healthy breasts and breasts with cancer. The data set was derived from `Breast2003QCList` by eliminating the mass region below 950 Da/charge. Please see the references for more details.

**Usage**

```
Breast2003QC
```

**Format**

An object of `msSet`. See `msSet` in package `msProcess` for details.

**Source**

<http://bioinformatics.mdanderson.org/pubdata.html>

**References**

Coombes, K.R., Tsavachidis, S., Morris, J.S., Baggerly, K.A., and Kuerer, H.M., "Improved peak detection and quantification of mass spectrometry data acquired from surface-enhanced laser desorption and ionization by denoising spectra with the undecimated discrete wavelet transform," *Proteomics*, 5:4107–17, 2005.

Pawlik, T.M., Fritsche, H., Coombes, K.R., Xiao, L., Krishnamurthy, S., Hunt, K.K., Pusztai, L., Chen, J.N., Clarke, C.H., Arun, B., Hung, M.C., and Kuerer, H.M., "Significant differences in nipple aspirate fluid protein expression between healthy women and those with breast cancer demonstrated by time-of-flight mass spectrometry," *Breast Cancer Research and Treatment*, 89(2):149–57, 2005.

Kuerer, H.M., Coombes, K.R., Chen, J.N., Xiao, L., Clarke, C., Fritsche, H., Krishnamurthy, S., Marcy, S., Hung, M.C., and Hunt, K.K., "Association between ductal fluid proteomic expression profiles and the presence of lymph node metastases in women with breast cancer," *Surgery*, 136(5):1061–9, 2004.

Coombes, K.R., Fritsche, Jr., H.A., Clarke, C., Chen, J.N., Baggerly, K.A., Morris, J.S., Xiao, L.C., Hung, M.C., and Kuerer, H.M., "Quality control and peak finding for proteomics data collected from nipple aspirate fluid by surface-enhanced laser desorption and ionization," *Clinical Chemistry*, 49(10):1615–23, 2003.

**See Also**

[Breast2003QCList](#).

## Examples

```
if (require("msProcess")) {
  if (!exists("Breast2003QC")) data("Breast2003QC", package="msBreast")

  ## plot a few spectra
  plot(Breast2003QC, subset=1:5)

  ## image of all spectra
  image(Breast2003QC)
}
```

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Breast2003QCList     *Mass Spectra from a Breast Cancer Quality Control Sample*

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## Description

A data object of class `msList`, consisting of 96 mass spectra generated from a pooled sample of nipple aspirate fluid (NAF) from healthy breasts and breasts with cancer. (see references for details).

## Usage

```
Breast2003QCList
```

## Format

An object of `msList`. See `msList` in package `msProcess` for details.

## Source

<http://bioinformatics.mdanderson.org/pubdata.html>

## References

- Coombes, K.R., Tsavachidis, S., Morris, J.S., Baggerly, K.A., and Kuerer, H.M., "Improved peak detection and quantification of mass spectrometry data acquired from surface-enhanced laser desorption and ionization by denoising spectra with the undecimated discrete wavelet transform," *Proteomics*, 5:4107–17, 2005.
- Pawlik, T.M., Fritsche, H., Coombes, K.R., Xiao, L., Krishnamurthy, S., Hunt, K.K., Pusztai, L., Chen, J.N., Clarke, C.H., Arun, B., Hung, M.C., and Kuerer, H.M., "Significant differences in nipple aspirate fluid protein expression between healthy women and those with breast cancer demonstrated by time-of-flight mass spectrometry," *Breast Cancer Research and Treatment*, 89(2):149–57, 2005.
- Kuerer, H.M., Coombes, K.R., Chen, J.N., Xiao, L., Clarke, C., Fritsche, H., Krishnamurthy, S., Marcy, S., Hung, M.C., and Hunt, K.K., "Association between ductal fluid proteomic expression profiles and the presence of lymph node metastases in women with breast cancer," *Surgery*, 136(5):1061–9, 2004.
- Coombes, K.R., Fritsche, Jr., H.A., Clarke, C., Chen, J.N., Baggerly, K.A., Morris, J.S., Xiao, L.C., Hung, M.C., and Kuerer, H.M., "Quality control and peak finding for proteomics data collected

from nipple aspirate fluid by surface-enhanced laser desorption and ionization," *Clinical Chemistry*, 49(10):1615–23, 2003.

### See Also

[Breast2003QC](#).

### Examples

```
if (require("msProcess")) {  
  if (!exists("Breast2003QCList")) data("Breast2003QCList", package="msBreast")  
  
  ## print an msList object  
  Breast2003QCList  
  
  ## print the synopsis of an msList object  
  summary(Breast2003QCList)  
  
  ## plot the 10th spectrum from an msList object  
  plot(Breast2003QCList, index=10)  
}
```

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