Comparaciones estadísticas

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2025-01-01

Contents

1 Introducción y Objetivo

2 Paquetes y datos

2.1 Metadata original

Para asegurar que examinamos todas las opciones, examinamos las variables originales.

Los datos a comparar son los resultados obtenidos de los análisis previos de deconvolución:

- GSE22155 (https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi) con dos plataformas: GPL6102 y GPL6947.

- GSE35640 (https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE35640)

- GSE61992 (https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE61992)

- GSE91061 (https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE91061)

- TCGA-SKCM (https://portal.gdc.cancer.gov/projects/TCGA-SKCM)

De manera excepcional, tenemos GSE120575 (https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE120575), que consiste en un dataset scRNA-seq en el que han analizado muestras tumorales y controles.

```
setwd("~/Desktop/ELENA_UOC/TFM")
GSE22155_GPL6102 <- read_csv("Deconvolution_analysis/Quantiseq_analyses/quantiseqr_GSE22155_GPL6102.csv")
GSE22155_GPL6947 <- read_csv("Deconvolution_analysis/Quantiseq_analyses/quantiseqr_GSE22155_GPL6947.csv")
GSE35640 <- read_csv("Deconvolution_analysis/Quantiseq_analyses/quantiseq_GSE35640.csv")
GSE61992 <- read_csv("Deconvolution_analysis/Quantiseq_analyses/quantiseq_GSE61992.csv")
```

```r
#GSE91061 <- read_csv("Deconvolution_analysis/Quantiseq_analyses/quantiseq_GSE91061.csv")
GSE91061 <- read_delim("Deconvolution_analysis/Quantiseq_analyses/quantiseqr_GSE91061.csv",
    delim = ",")
tcga_skcm <- read_csv("Deconvolution_analysis/Quantiseq_analyses/quantiseq_tcga_skcm.csv")
TCGA_SKCM_clinical_data <- readxl::read_excel("Datasets/TCGA_SKCM_clinical_data.xlsx")
```

2.2 Metadata harmonizada

Para poder estudiar si podemos comparar

- Cohorte GSE22155 y plataforma GPL6947:
- Cohorte GSE22155 y plataforma GPL6102:
- Cohorte GSE35640:
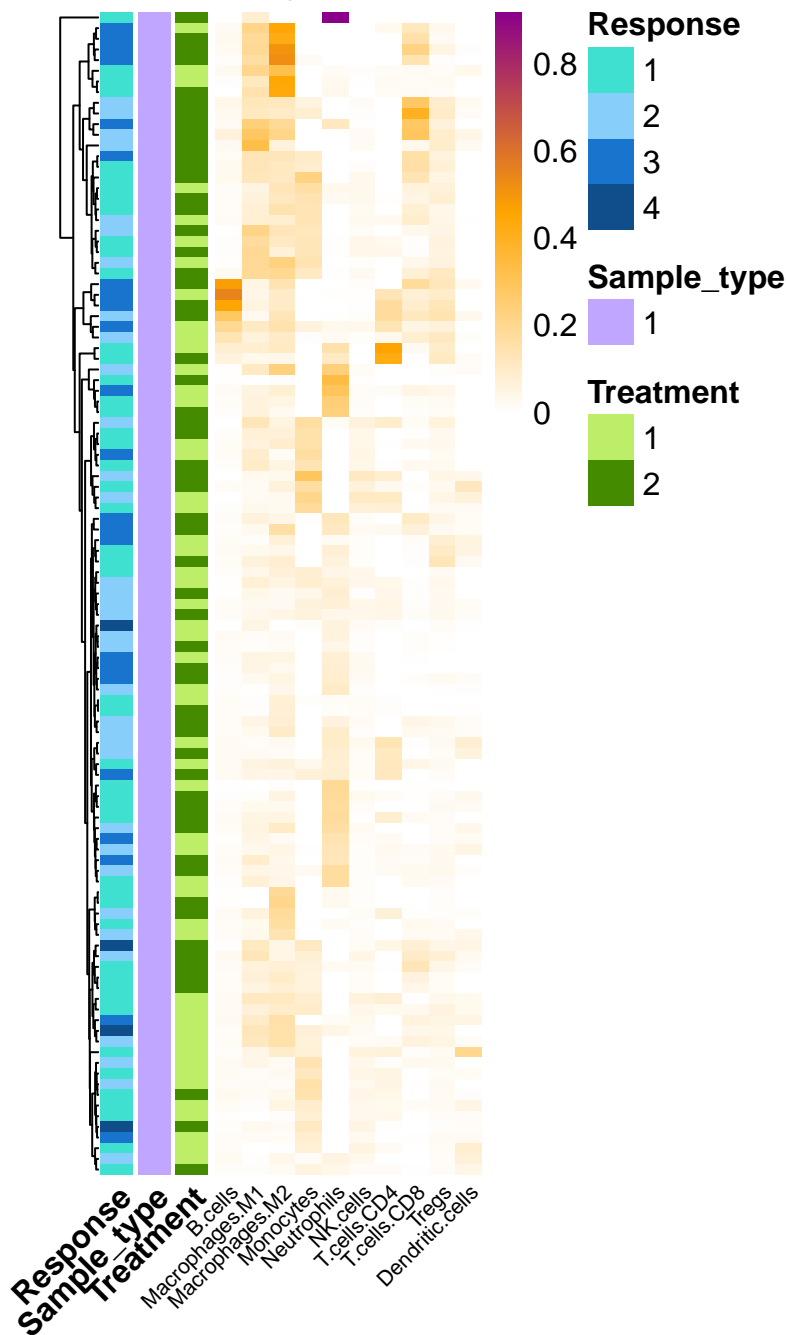- Cohorte GSE61992:
- Cohorte GSE91061:
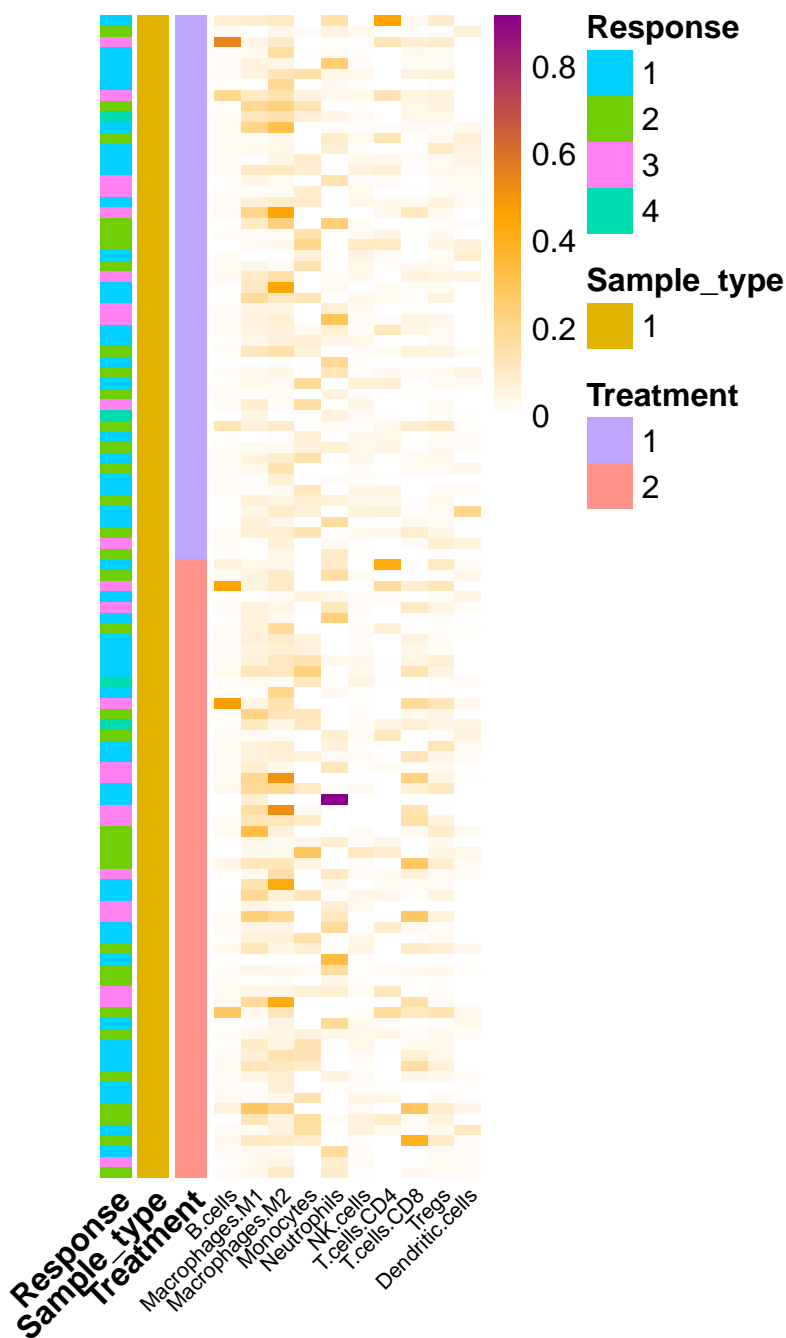- Cohorte TCGA-SKCM:

3 Heatmaps

- Packages:

3.1 GSE91061

```
## [1] TRUE
```

```
## [1] 0
```

```
## [1] 0
```

Deconvolution analysis GSE91061, clustered

Deconvolution analysis GSE91061
Ordered by treatment

Deconvolution analysis GSE91061
Ordered by response
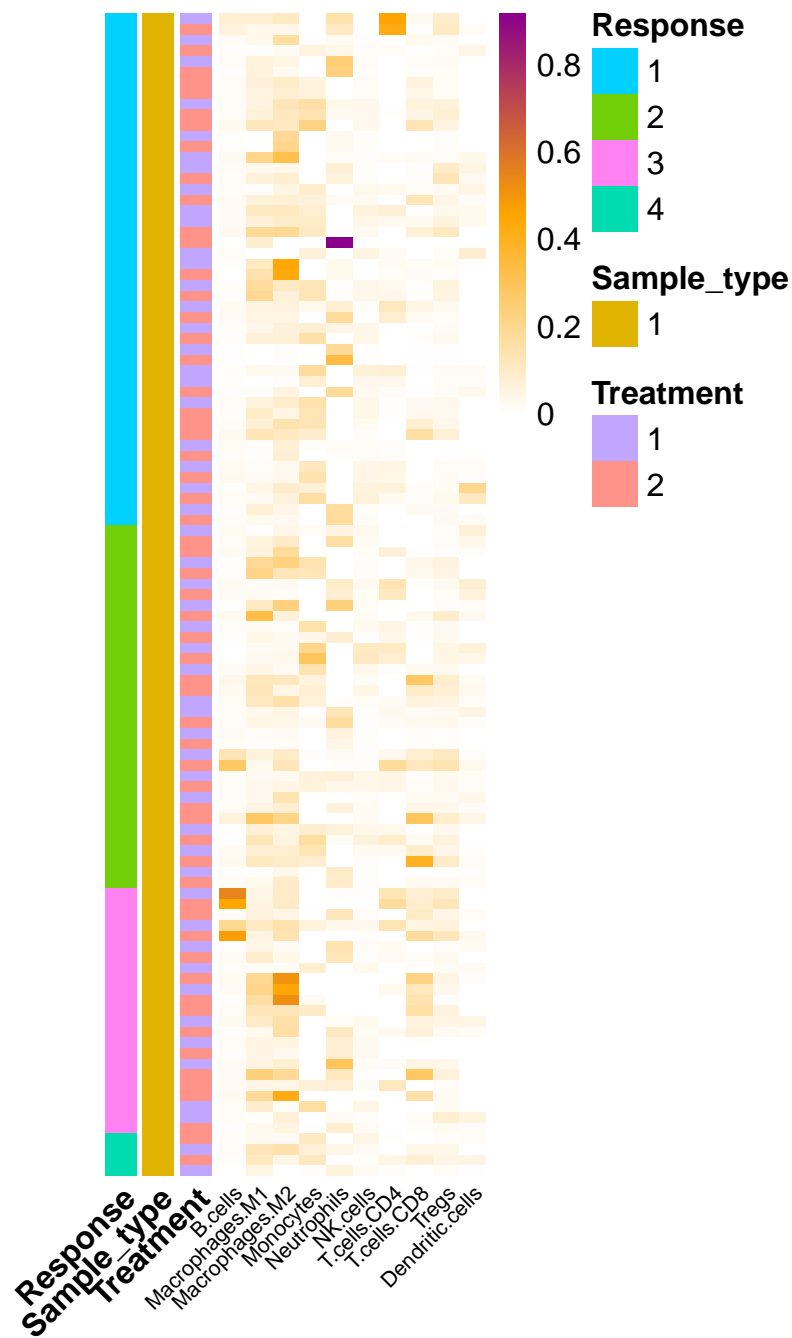

```
## pdf
##   3
```
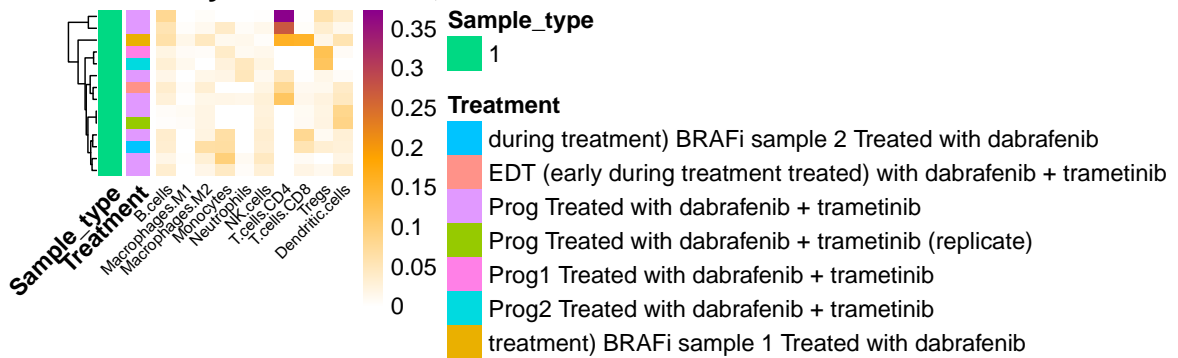
3.2 GSE61992

```
## [1] TRUE
```

```
## [1] 0
```

```
## [1] 0
```

Deconvolution analysis GSE61992, clustered

Deconvolution analysis GSE61992

Ordered by treatment

Deconvolution analysis GSE61992

Ordered by response

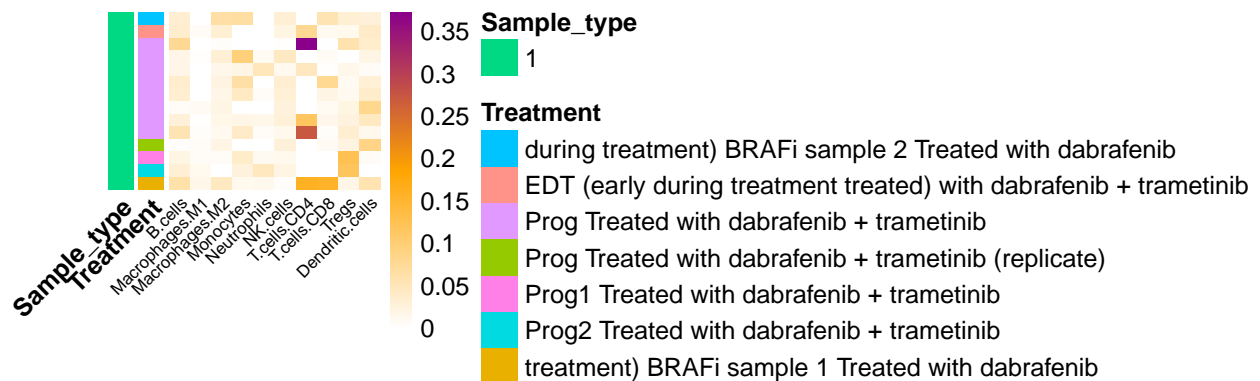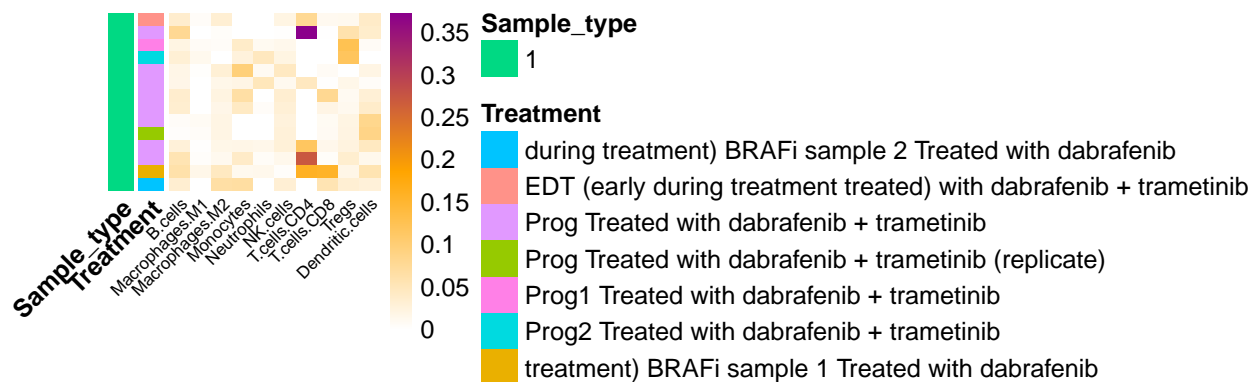## 3.3   GSE35640

```
## [1] TRUE
```

```
## [1] 0
```

```
## [1] 0
```

Deconvolution analysis GSE35640, clustered

Deconvolution analysis GSE35640
Ordered by treatment
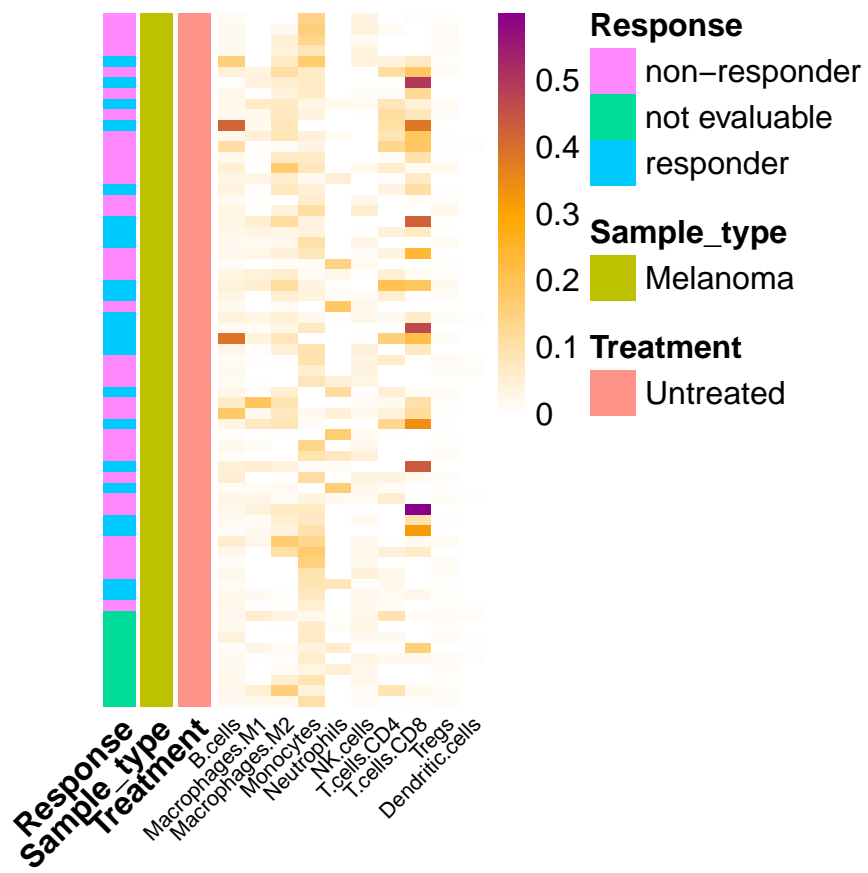
Deconvolution analysis GSE35640
Ordered by response
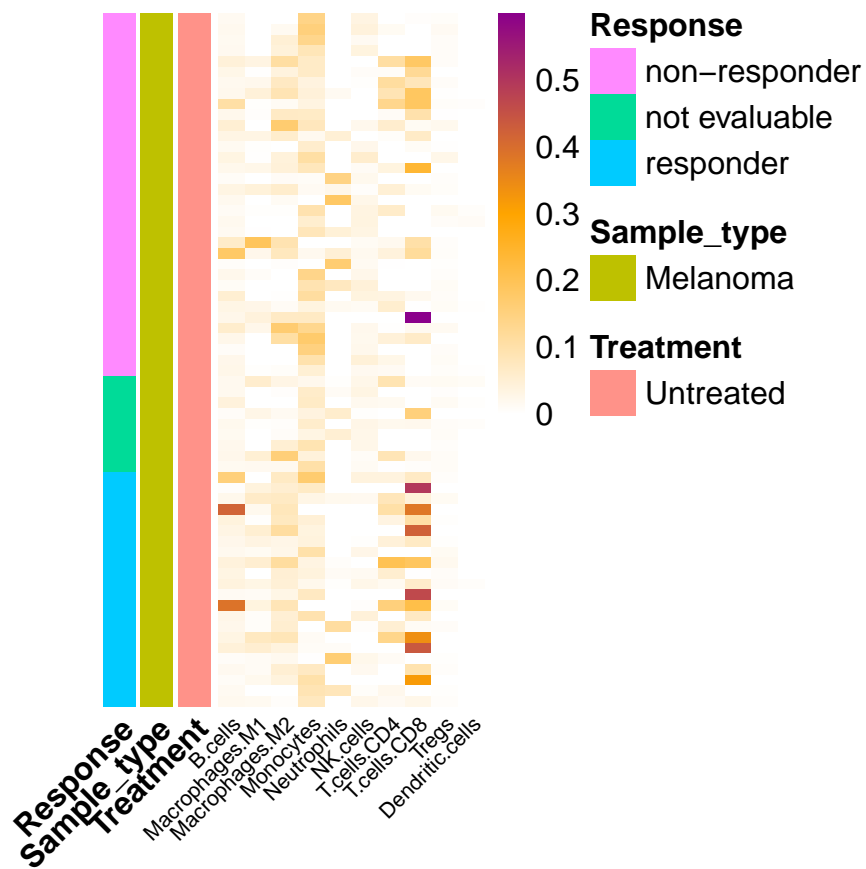
3.4   tcga__skcm

```
## [1] TRUE
```

```
## [1] 0
```

```
## [1] 0
```

Deconvolution analysis TCGA−SKCM, clustered
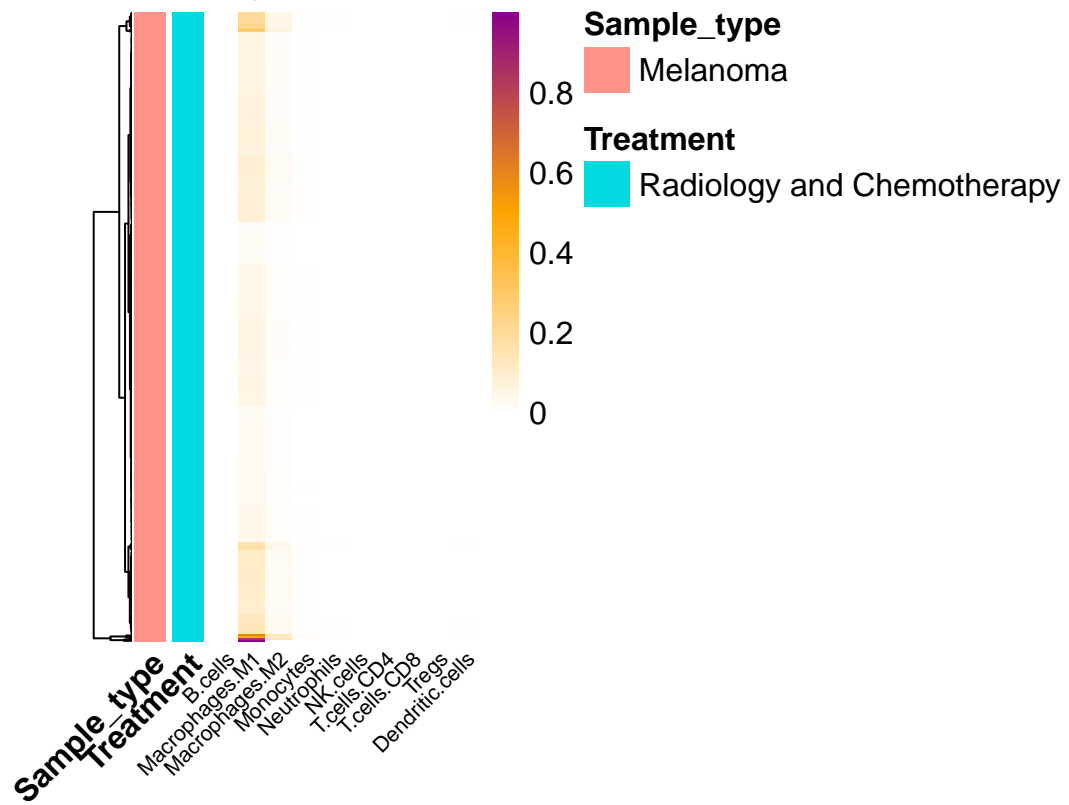
Deconvolution analysis TCGA−SKCM
Ordered by treatment
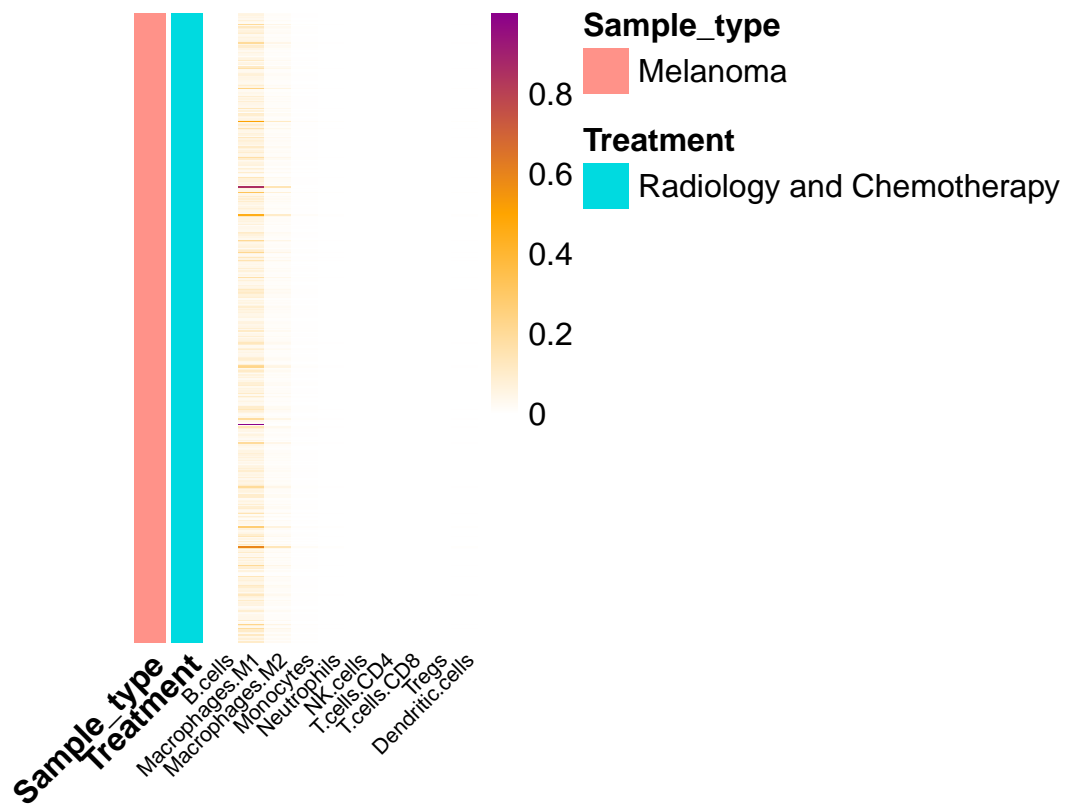
Deconvolution analysis TCGA–SKCM
Ordered by response
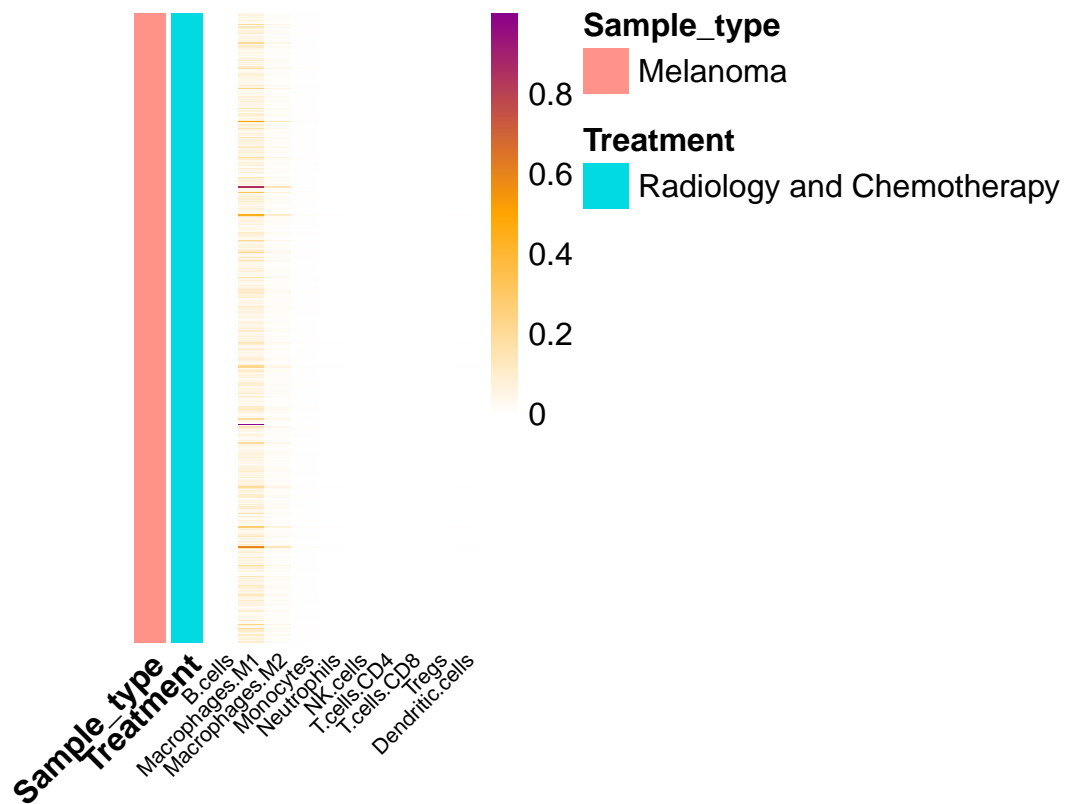
3.5 GSE22155-GPL6102

```
## [1] TRUE
```

```
## [1] 0
```

```
## [1] 0
```

Deconvolution analysis GSE22155−GPL6102, clustered
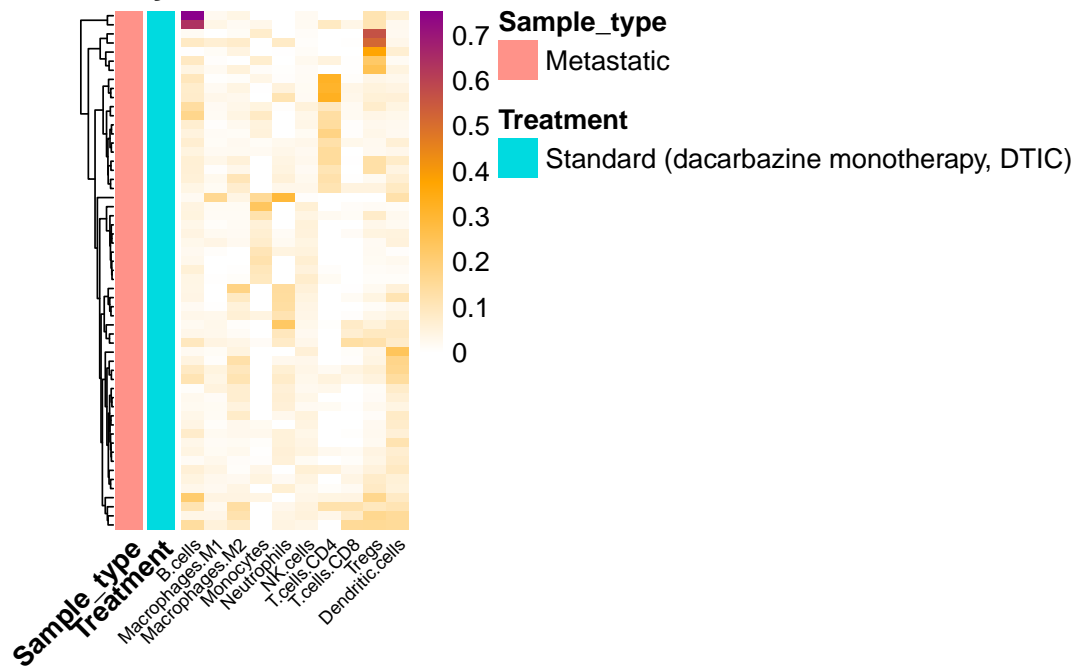
Deconvolution analysis GSE22155−GPL6102
Ordered by treatment
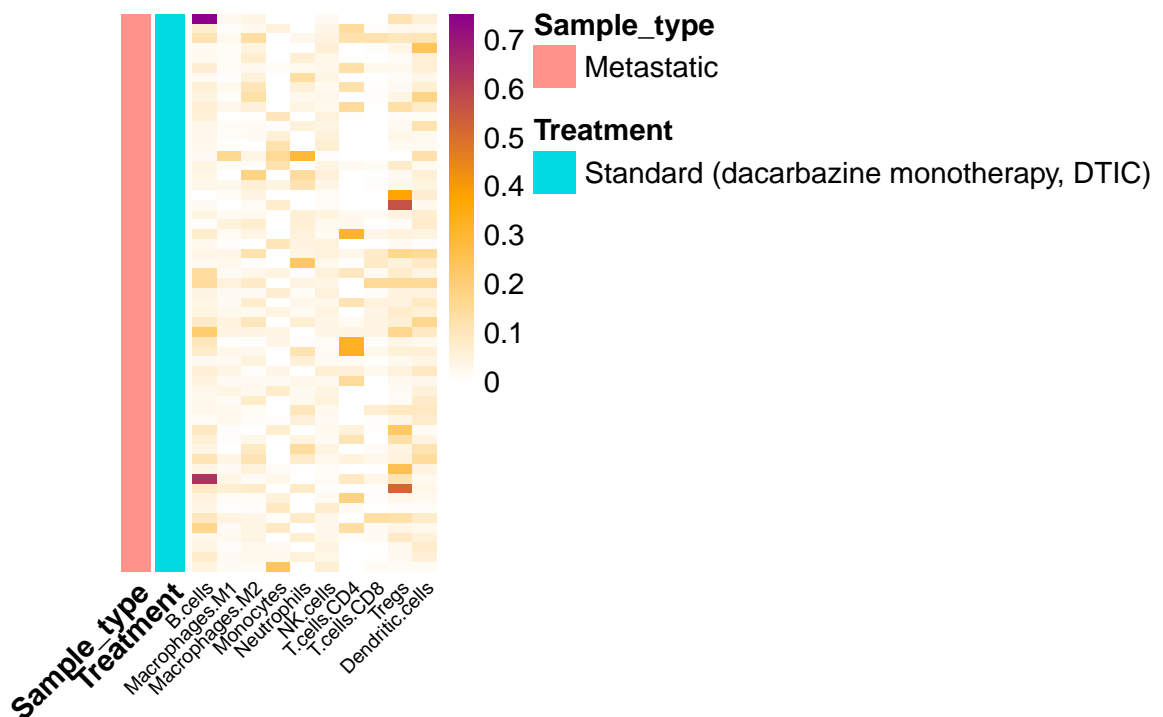
Deconvolution analysis GSE22155–GPL6102
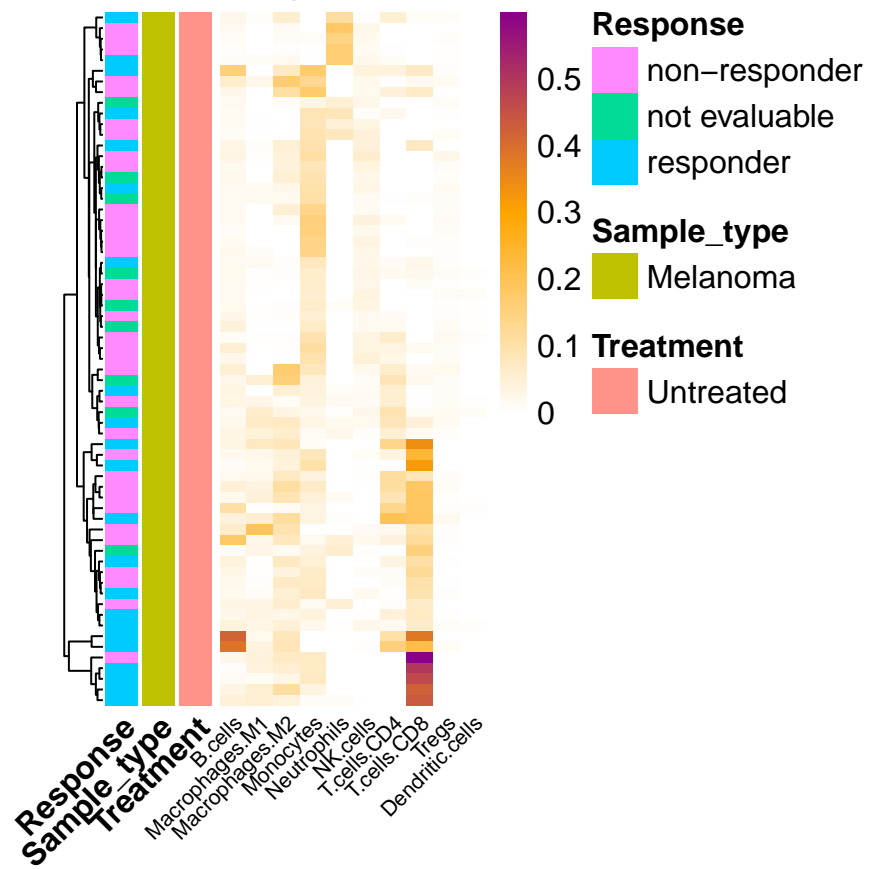## Ordered by response
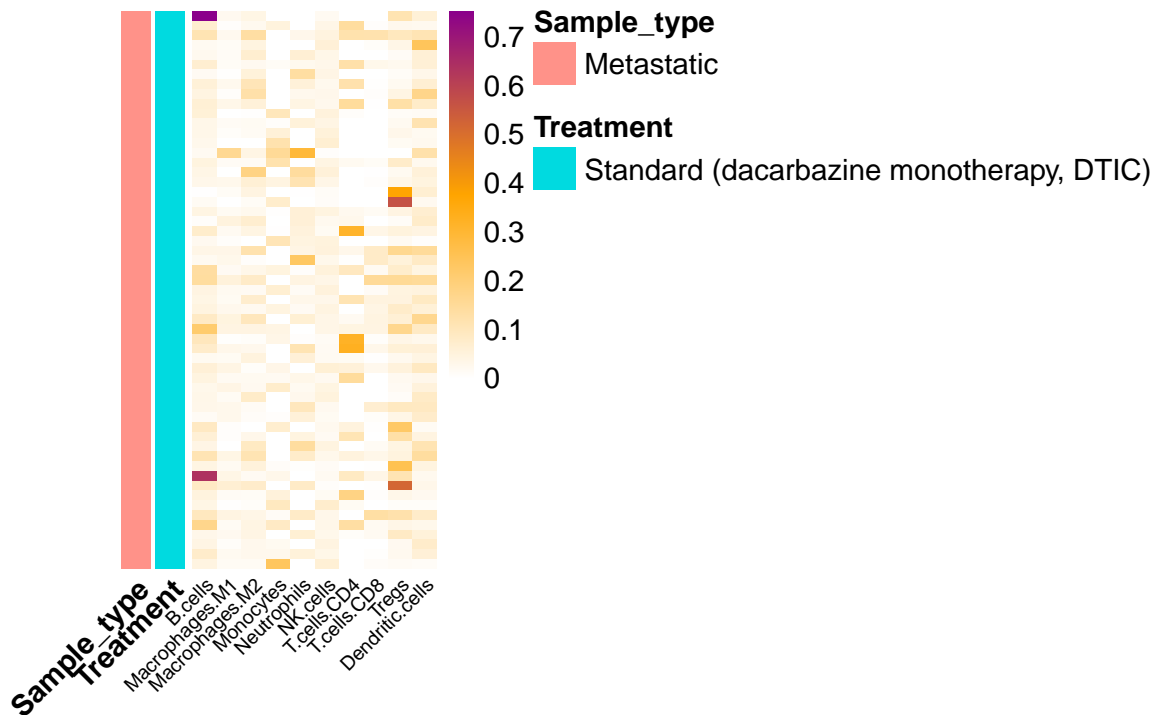
3.6 GSE22155-GPL6947

```
## [1] TRUE
```

```
## [1] 0
```

```
## [1] 0
```

Deconvolution analysis GSE22155–GPL6947, clustered
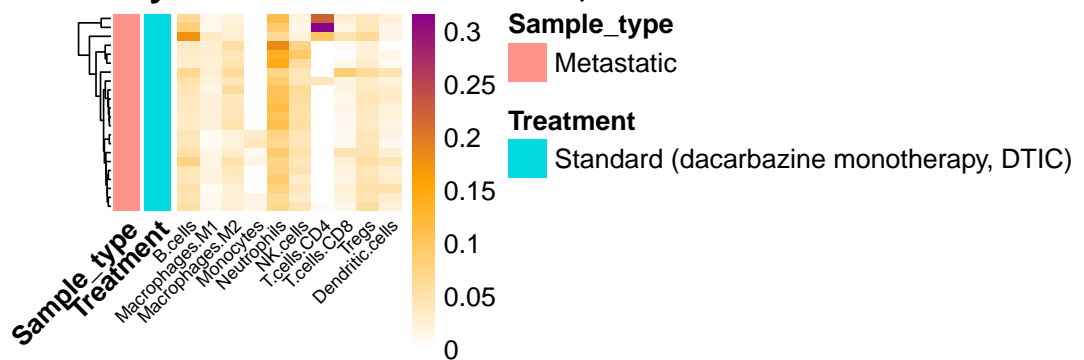
Deconvolution analysis GSE22155–GPL6947
Ordered by treatment
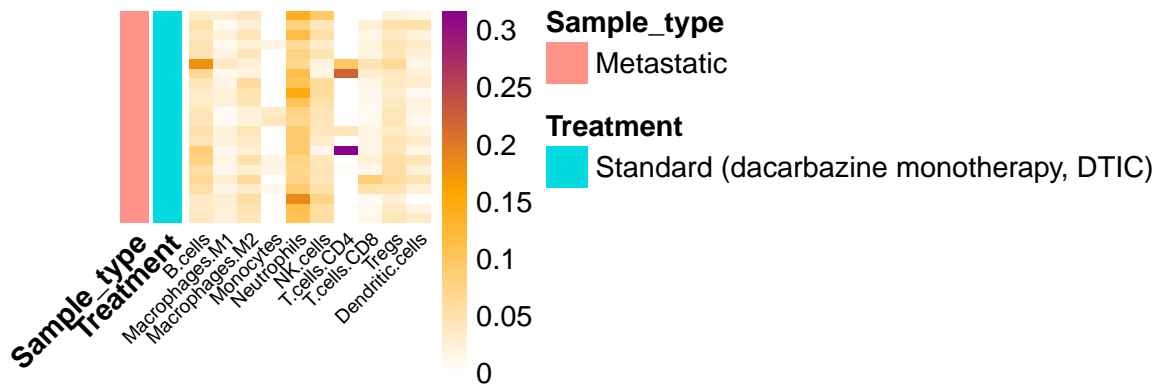
Deconvolution analysis GSE22155–GPL6947
Ordered by response
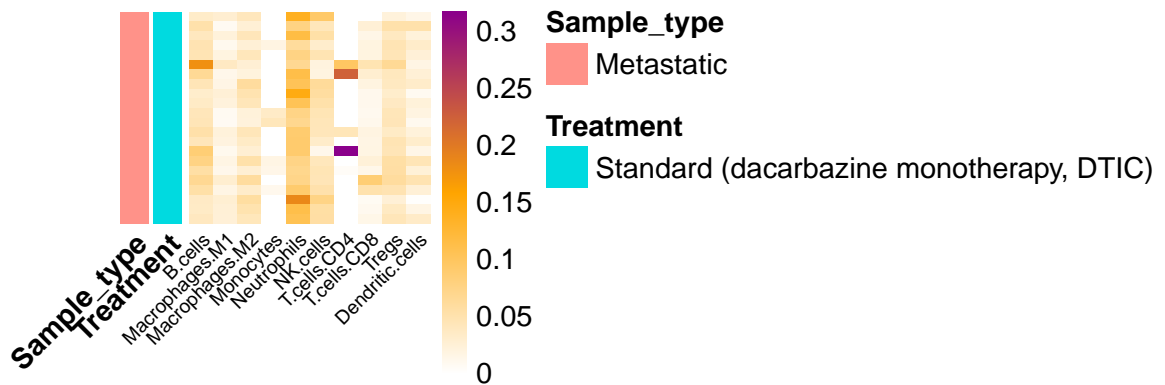
3.7 All

```
## [1] TRUE
```

```
## [1] 0
```

```
## [1] 0
```

Deconvolution analysis all studies, clustered

Response
- 1
- 2
- 3
- 4
- non−responder
- not evaluable
- responder

Sample_type
- Melanoma
- Metastatic

Treatment
- 1
- 2
- during treatment) BRAFi sample 2 Treated with dabrafenib
- EDT (early during treatment treated) with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib (replicate)
- Prog1 Treated with dabrafenib + trametinib
- Prog2 Treated with dabrafenib + trametinib
- Radiology and Chemotherapy
- Standard (dacarbazine monotherapy, DTIC)
- treatment) BRAFi sample 1 Treated with dabrafenib
- Untreated

Study
- GSE22155_GPL6102
- GSE22155_GPL6947
- GSE35640
- GSE61992
- GSE91061
- tcga_skcm

Deconvolution analysis all studies
Ordered by study

Response
- 1
- 2
- 3
- 4
- non−responder
- not evaluable
- responder

Sample_type
- Melanoma
- Metastatic

Treatment
- 1
- 2
- during treatment) BRAFi sample 2 Treated with dabrafenib
- EDT (early during treatment treated) with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib (replicate)
- Prog1 Treated with dabrafenib + trametinib
- Prog2 Treated with dabrafenib + trametinib
- Radiology and Chemotherapy
- Standard (dacarbazine monotherapy, DTIC)
- treatment) BRAFi sample 1 Treated with dabrafenib
- Untreated

Study
- GSE22155_GPL6102
- GSE22155_GPL6947
- GSE35640
- GSE61992
- GSE91061
- tcga_skcm

Deconvolution analysis all studies
Ordered by treatment

Response
- 1
- 2
- 3
- 4
- non−responder
- not evaluable
- responder

Sample_type
- Melanoma
- Metastatic

Treatment
- 1
- 2
- during treatment) BRAFi sample 2 Treated with dabrafenib
- EDT (early during treatment treated) with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib (replicate)
- Prog1 Treated with dabrafenib + trametinib
- Prog2 Treated with dabrafenib + trametinib
- Radiology and Chemotherapy
- Standard (dacarbazine monotherapy, DTIC)
- treatment) BRAFi sample 1 Treated with dabrafenib
- Untreated

Study
- GSE22155_GPL6102
- GSE22155_GPL6947
- GSE35640
- GSE61992
- GSE91061
- tcga_skcm

Deconvolution analysis all studies
Ordered by response

Response
- 1
- 2
- 3
- 4
- non−responder
- not evaluable
- responder

0.8
0.6
0.4
0.2
0

Sample_type
- Melanoma
- Metastatic

Treatment
- 1
- 2
- during treatment) BRAFi sample 2 Treated with dabrafenib
- EDT (early during treatment treated) with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib
- Prog Treated with dabrafenib + trametinib (replicate)
- Prog1 Treated with dabrafenib + trametinib
- Prog2 Treated with dabrafenib + trametinib
- Radiology and Chemotherapy
- Standard (dacarbazine monotherapy, DTIC)
- treatment) BRAFi sample 1 Treated with dabrafenib
- Untreated

Study
- GSE22155_GPL6102
- GSE22155_GPL6947
- GSE35640
- GSE61992
- GSE91061
- tcga_skcm