

PATIENT INFORMATION:	SAMPLE INFORMATION:	REQUESTED BY:
Patient ID: Name: DOB 17-Feb-1979 Sex Female	Diagnosis: Endometrial sarcoma DB used: 1.6 Received: 22-Feb-2019 Supplied: Resection	Dave Jones University of Studies

predictRx was carried out on cells isolated from a biopsy resection. The results show that there are 8 drugs of potential benefit. These are all non-targeted cytotoxics. Five of these all have a similar mechanism of action that affects microtubules in the cells (Vincristine, Vinorelbine, Eribulin, Docetaxel, Paclitaxel). This may confirm there is an inherent sensitivity to this family of drugs.

It should be noted that we apply a threshold on drugs that are deemed to fit in with these predictions (Explained in Appendix A).

We also present graphs showing the overall ranking of the drugs tested and this can help choose some of the more effective options for drugs that do not fall within our cutoffs established for the predictions.

Head of Laboratory: Dr. Joanna Dutko-Gwozdz

Dutko-Gwozdz

Dr G.J.Griffiths (CSO)



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Where drugs tested by predictRx show no clear benefit, a judgement by the clinician may be made by viewing the drugs ranked in order of response (pages 5 and 6).

Drugs of Potential Benefit

Indication Licensed Drugs	Non-targeted Drugs	Targeted Drugs
Cisplatin Paclitaxel	Cisplatin Vincristine Vinorelbine Eribulin Cladribine Clofarabine Docetaxel Paclitaxel	

See Appendix A for information on how these rankings are calculated

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Where drugs tested by predictRx show no clear benefit, a judgement by the clinician may be made by viewing the drugs ranked in order of response (pages 4 and 5).

Drugs of Intermediate Benefit

Indication Licensed Drugs	Non-targeted Drugs	Targeted Drugs
Gemcitabine	Gemcitabine Etoposide Bleomycin Vorinostat	Nilotinib Rapamycin

See Appendix A for information on how these rankings are calculated

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Where drugs tested by predictRx show no clear benefit, a judgement by the clinician may be made by viewing the drugs ranked in order of response (pages 4 and 5).

Drugs of Potentially no Benefit

Indication Licensed Drugs	Non-targeted Drugs	Targeted Drugs
Doxorubicin Topotecan Cyclophosphamide Olaparib	Lomustine Teniposide Carmustine Mitomycin C Doxorubicin Mitoxantrone Irinotecan Topotecan Epothilone B Oxaliplatin Cyclophosphamide Dacarbazine Temozolomide	Crizotinib, Vismodegib Dabrafenib, Bortezomib Osimertinib, Cabozantinib Afatinib, Vemurafenib Dasatinib, Sunitinib Everolimus, Ruxolitinib Olaparib, Pazopanib Gefitinib, Sorafenib Carfilzomib, Cediranib Lapatinib, Ribociclib Ganetespib, Regorafenib Axitinib, Ponatinib Imatinib, Bosutinib Trametinib Erlotinib Vandetanib

See Appendix A for information on how these rankings are calculated

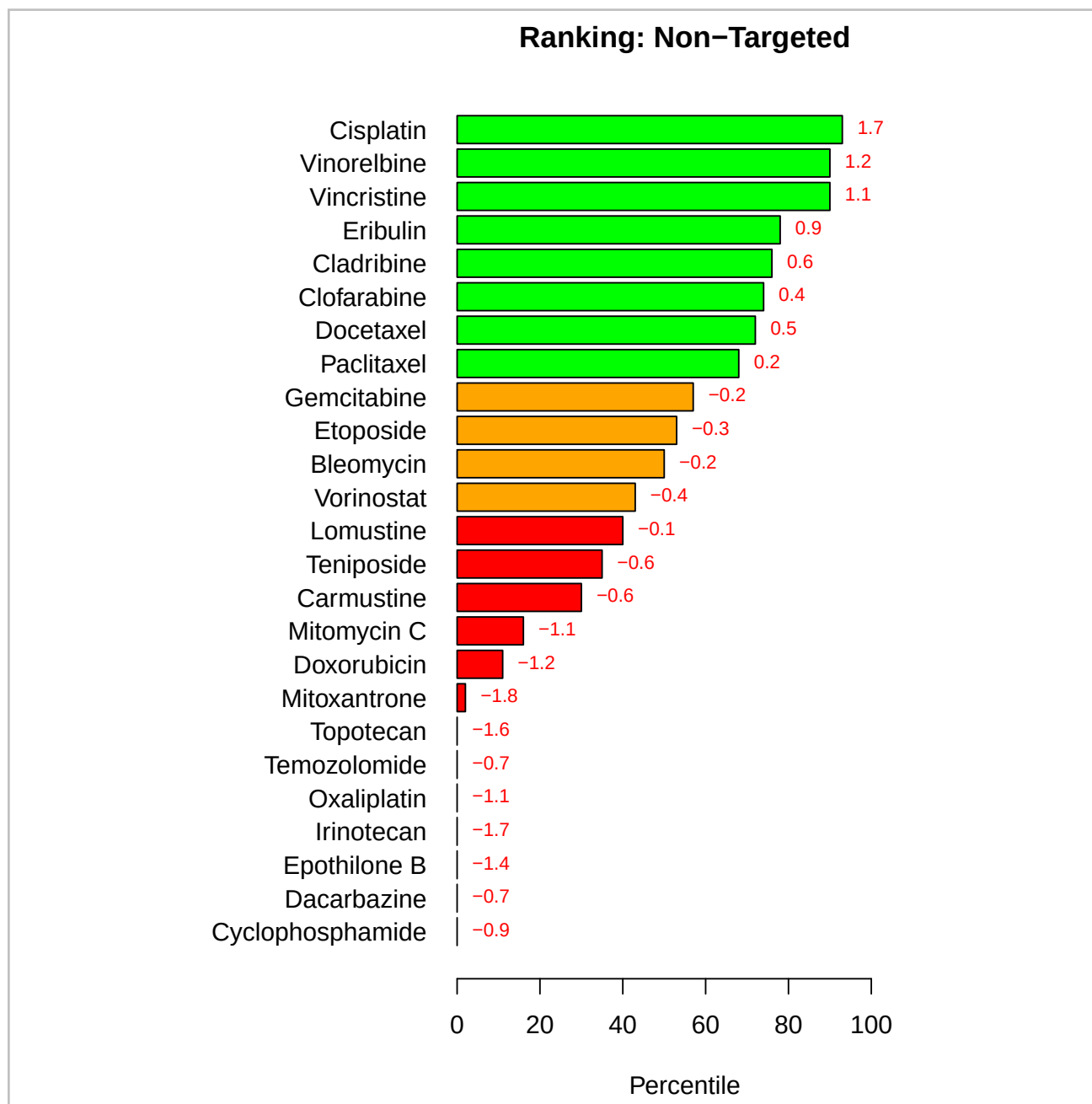
Suite 4D, Citylabs, Nelson Street, Manchester M13 9NQ

Tel: +44 (0161) 826 4032

www.imagentherapeutics.com

The selection of any, all, or none of the matched therapies resides solely with the discretion of the treating physician. Decisions on patient care and treatment must be based on the independent medical judgment of the treating physician, taking into consideration all available information in addition to this report.

Non-targeted Drug responses ranked by our calibrated data (see Appendix B for all the individual graphs of this data)



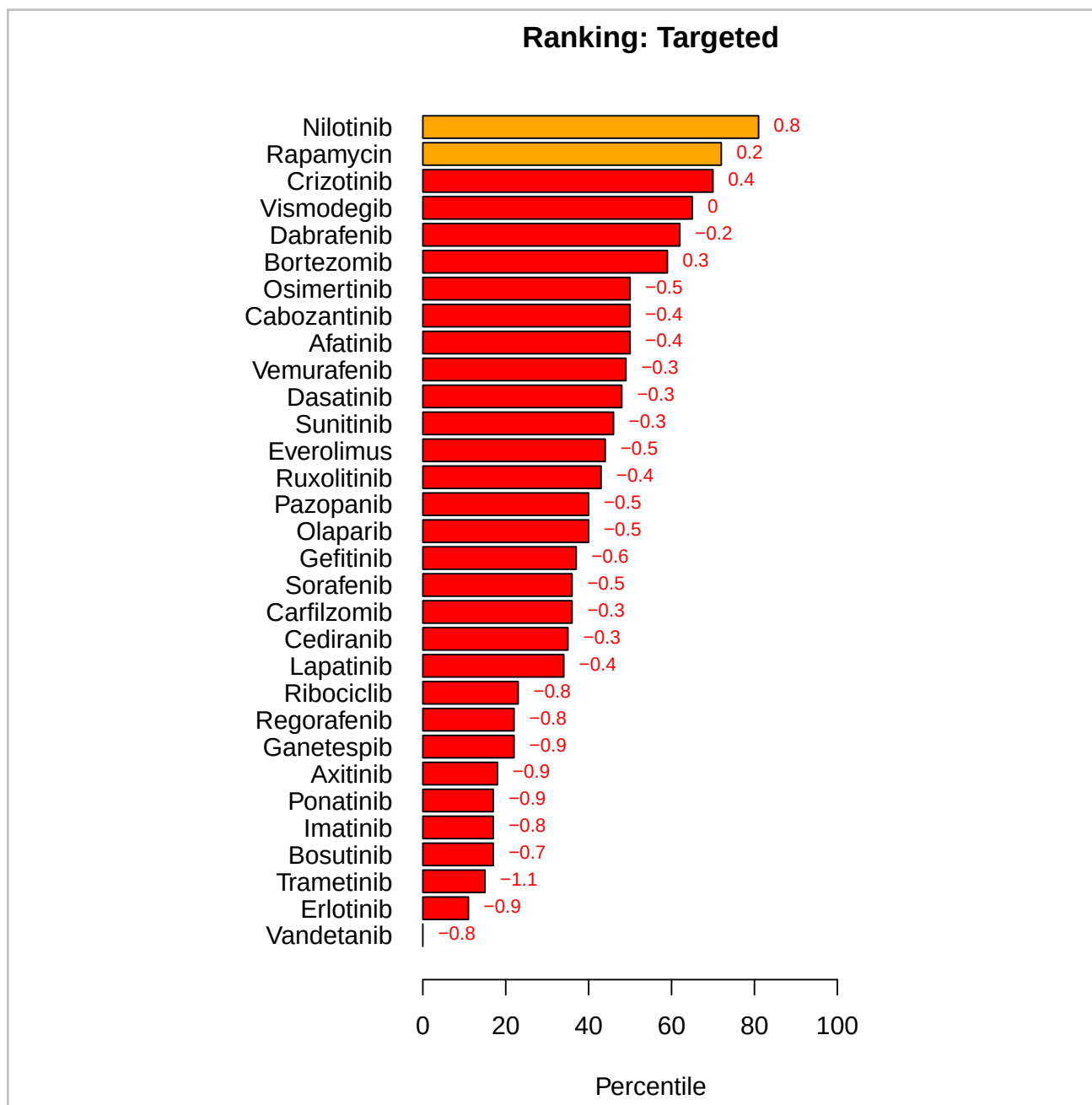
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The selection of any, all, or none of the matched therapies resides solely with the discretion of the treating physician. Decisions on patient care and treatment must be based on the independent medical judgment of the treating physician, taking into consideration all available information in addition to this report.

Targeted Drug responses ranked by our calibrated data (see Appendix C for all the individual graphs of this data)



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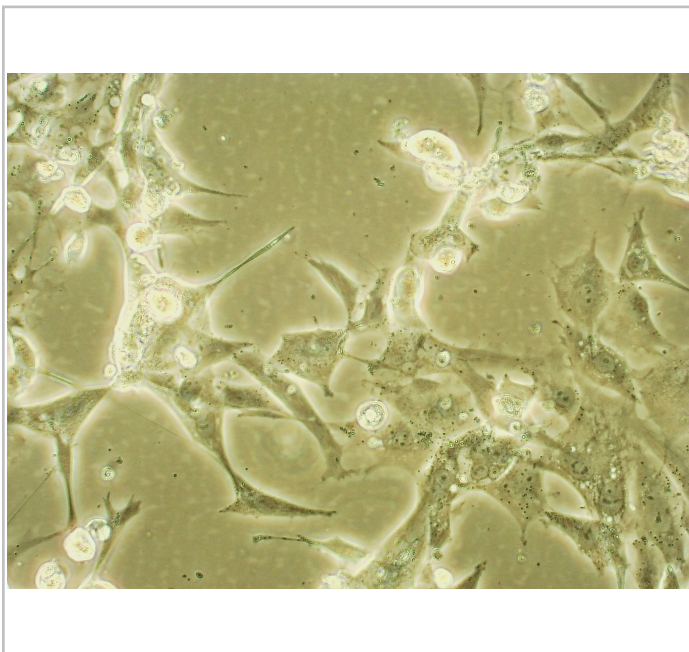
The selection of any, all, or none of the matched therapies resides solely with the discretion of the treating physician. Decisions on patient care and treatment must be based on the independent medical judgment of the treating physician, taking into consideration all available information in addition to this report.

PATIENT ID:	SAMPLE INFORMATION:
Name:	Diagnosis: Endometrial sarcoma

VIABILITY: 60-70%

GROWTH: Slow. Doubling time 72hr.

PHENOTYPE: Small to medium sizes cells with differing morphologies. Growing in disparate colonies.



Bright field image example of cells derived from the sample.

What does the categorisation of drugs on page 1 mean?

Imagen's predictRx assay measures the relative effectiveness of a range of drugs in killing a sample of cells removed from a patient's cancer. This assists treating physicians to choose optimal treatment strategies.

The assay measures percentage cell death at each given dose of drug. Cumulative response curves are generated for each patient using the average percentage cell death at each dose.

This score is then ranked against all other scores in our database of responses observed with that particular drug for all samples we have received. It should be noted that at present the database consists of over 100 cancers derived from solid tumours.

Drugs listed in "Drugs of potential benefit" are ranked in the top 40% of responses observed for cytotoxic drugs. Targeted are ranked in the top 10% of responses observed for that particular drug.

The following should be noted when interpreting the data:

The fact that a good response is seen in our test does not guarantee that the drug will be clinically effective. The choice of drug to be used should always be based on clinical judgment and experience, incorporating the results of **all** tests performed.

All graphs of drug responses appear in Appendix B and Appendix C.

Graphs of all non-targeted drugs in order of percentile (high to low)

Two plots show comparisons to historical data for each drug

- 1) Cumulative response % cell death
- 2) Frequency of patients with slope values

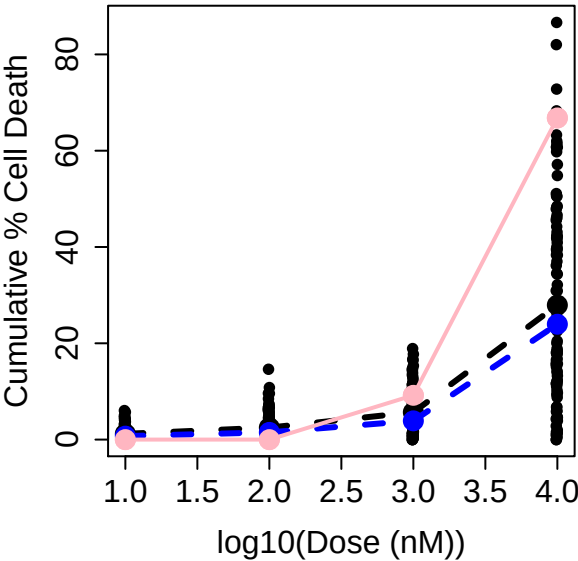
Key to colour coding

Grey - historical distribution,
Black dashed - historical mean
Blue dotted - historical median,
Pink - patient sample

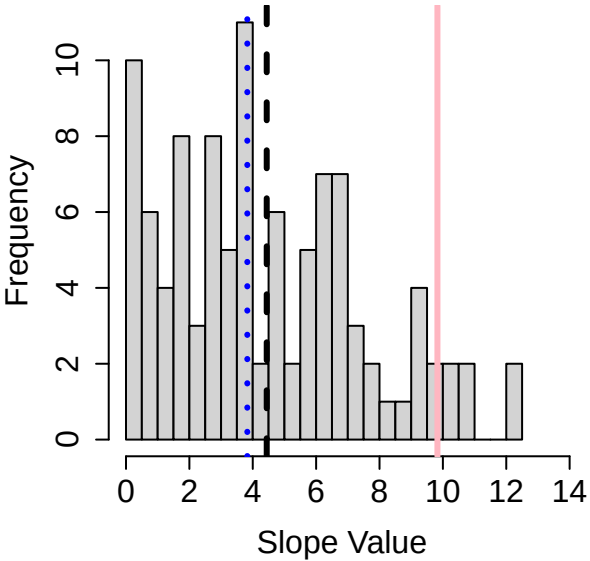
Please note:

This ranking is performed by reference to a dataset of over 100 solid tumours, primarily from lung, endometrium, ovary, kidney, oesophagus and sarcoma patients.
High responses must be interpreted accordingly.

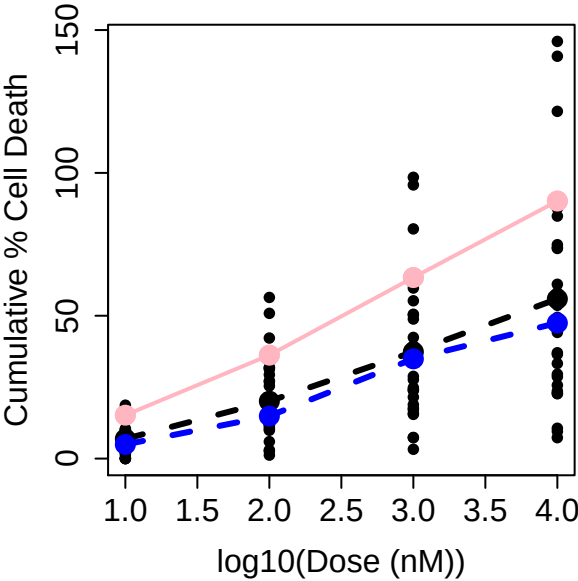
Cisplatin: Dose-CR



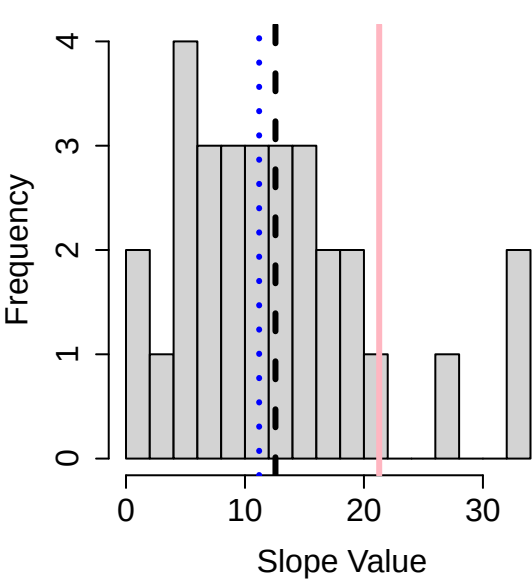
Cisplatin: Slope Distribution



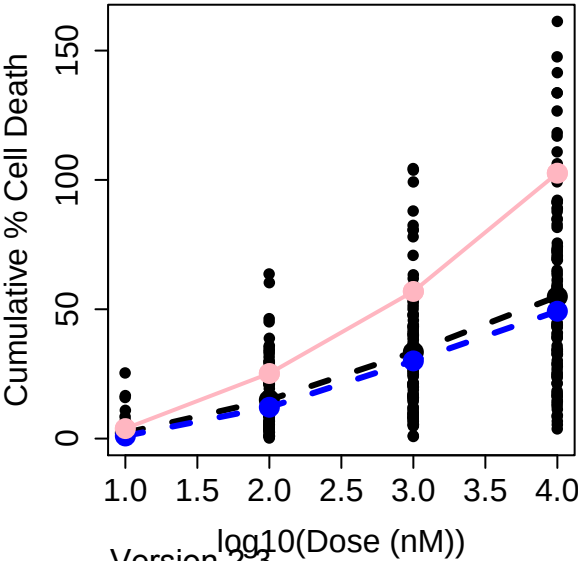
Vincristine: Dose-CR



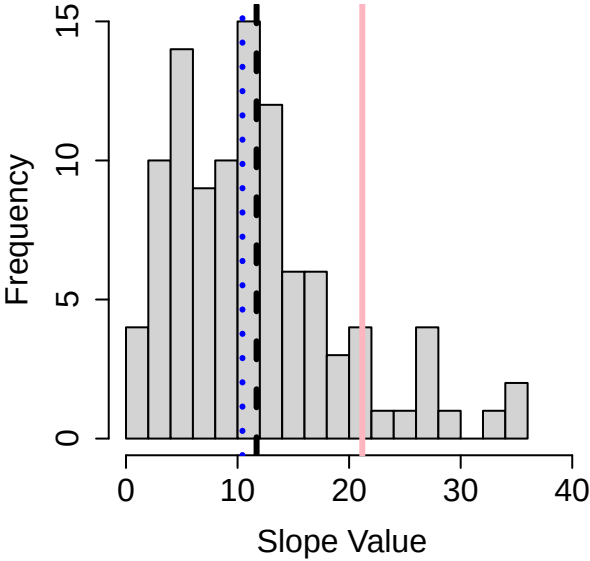
Vincristine: Slope Distribution



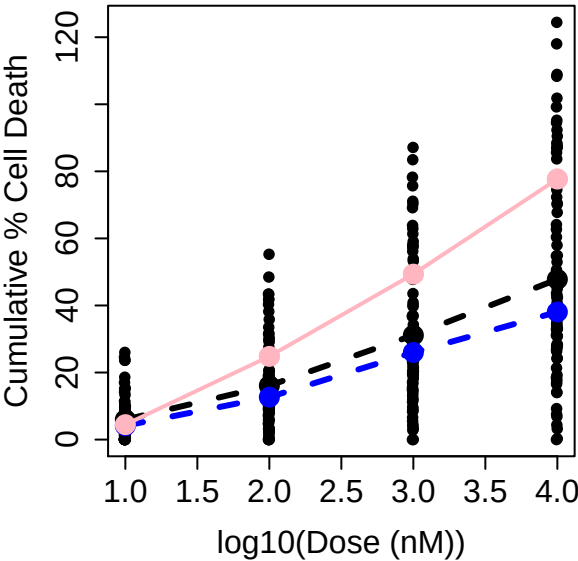
Vinorelbine: Dose-CR



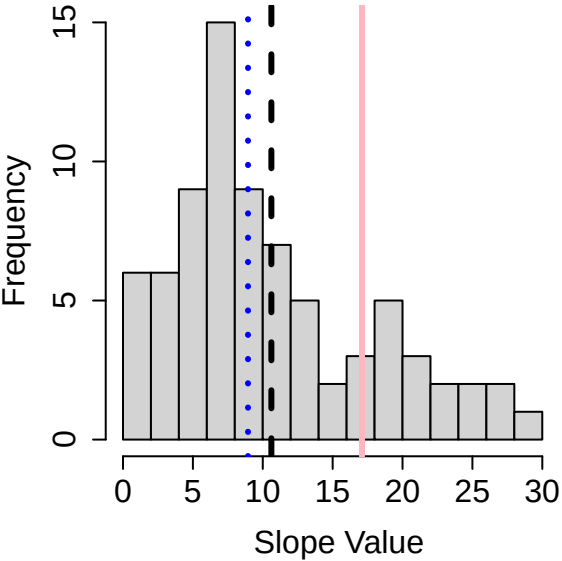
Vinorelbine: Slope Distribution



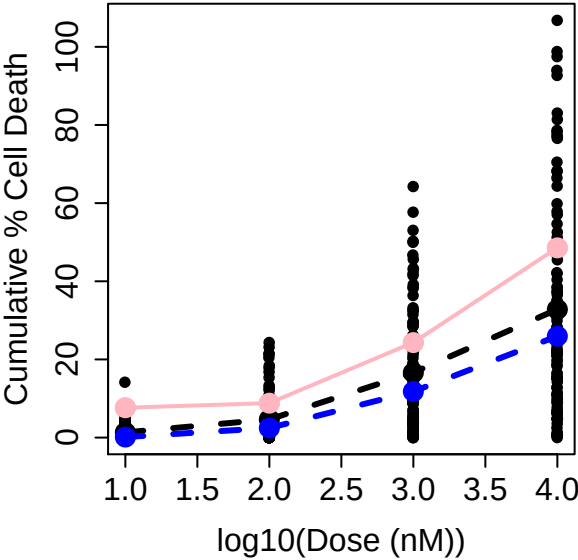
Eribulin: Dose-CR



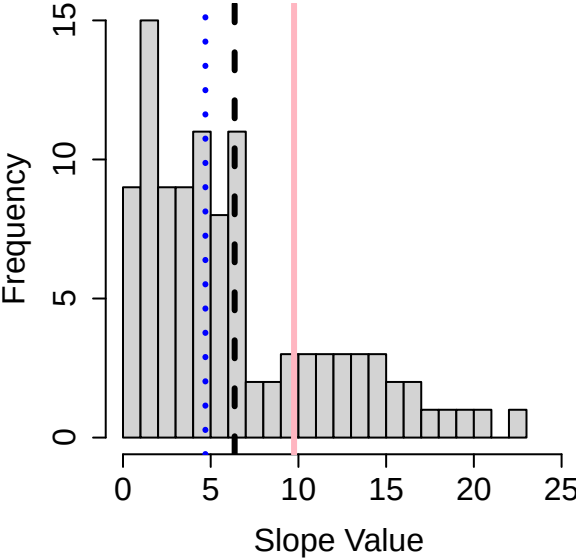
Eribulin: Slope Distribution



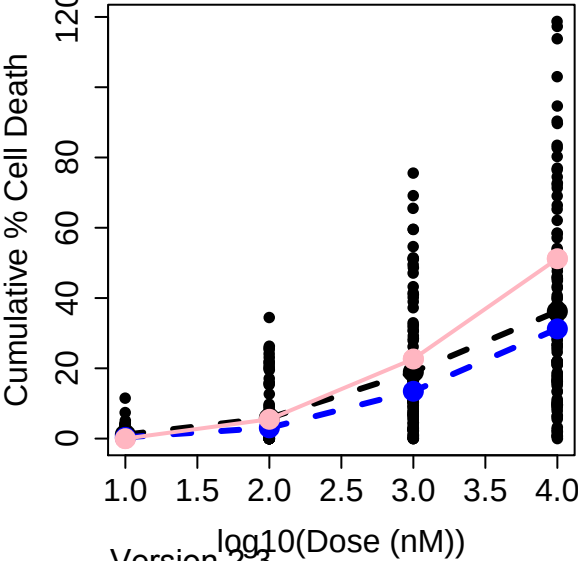
Cladribine: Dose-CR



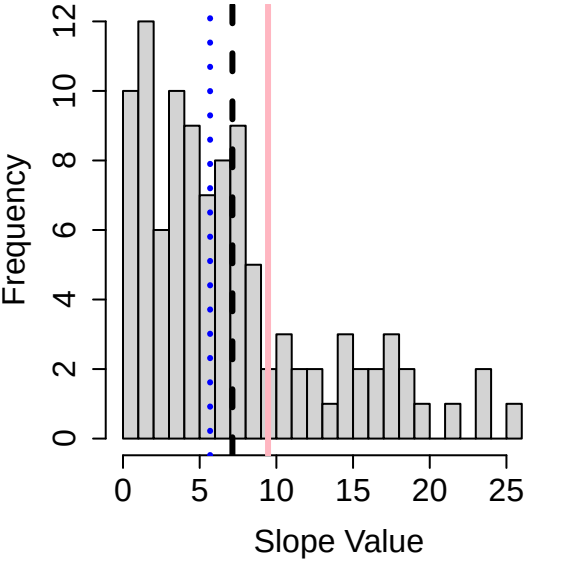
Cladribine: Slope Distribution



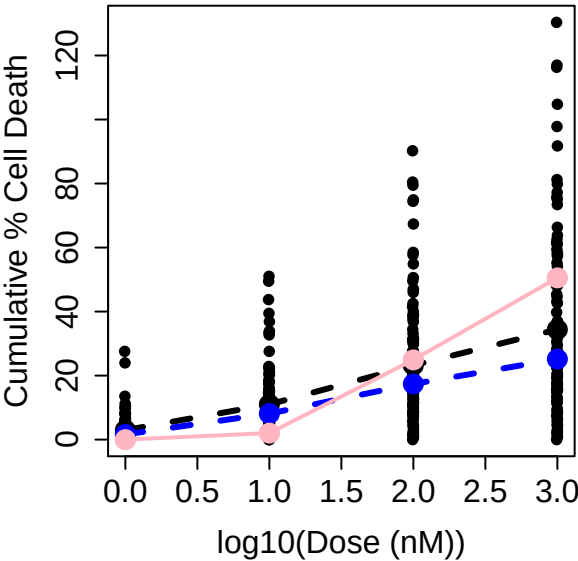
Clofarabine: Dose-CR



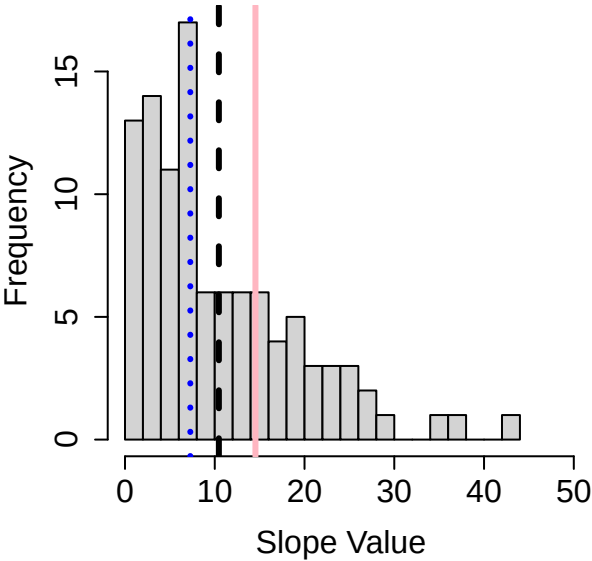
Clofarabine: Slope Distribution



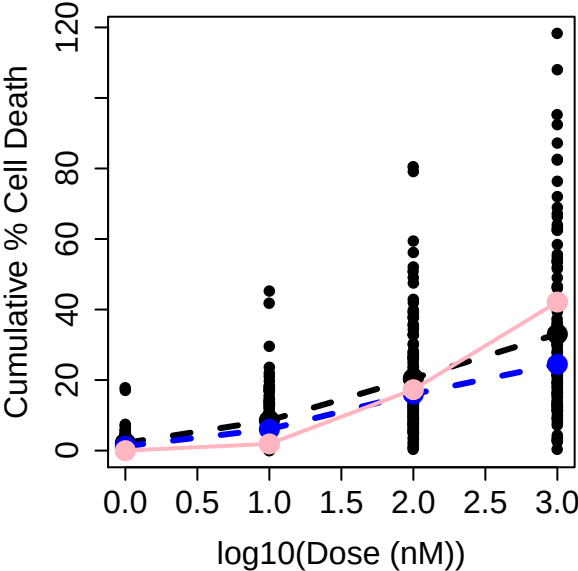
Docetaxel: Dose-CR



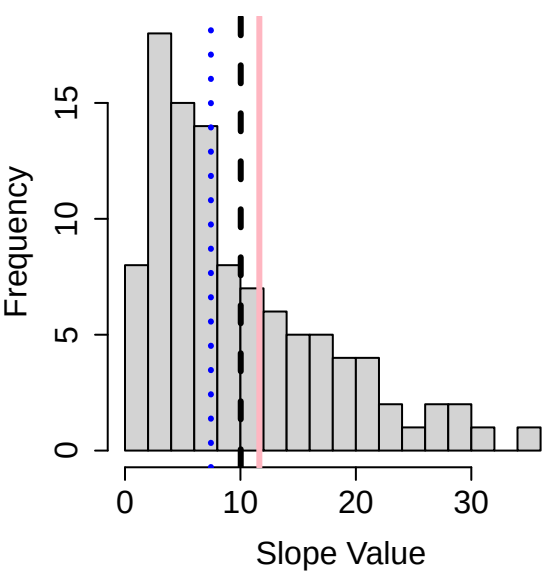
Docetaxel: Slope Distribution



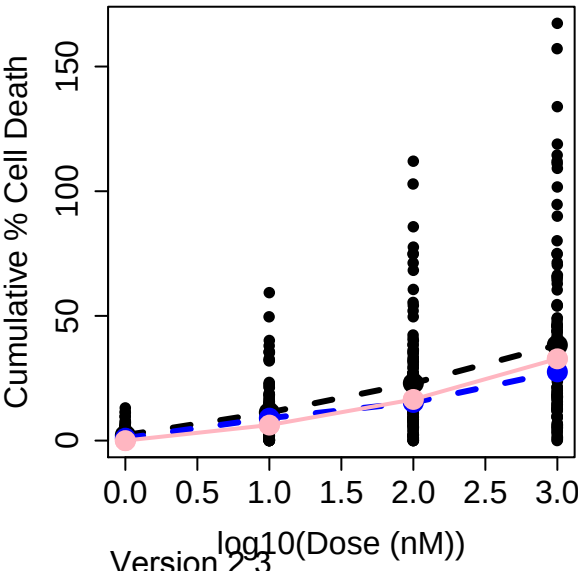
Paclitaxel: Dose-CR



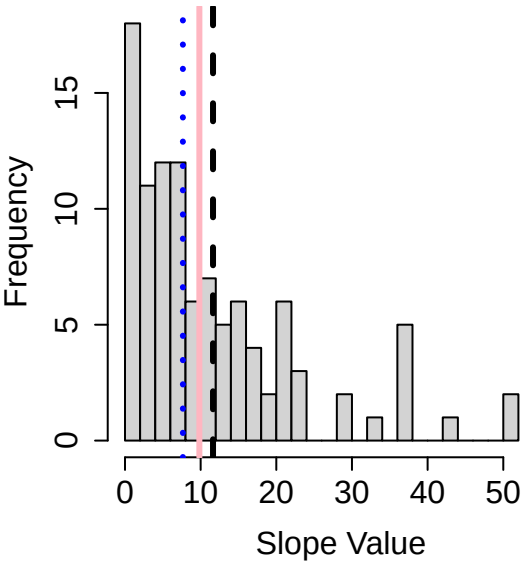
Paclitaxel: Slope Distribution



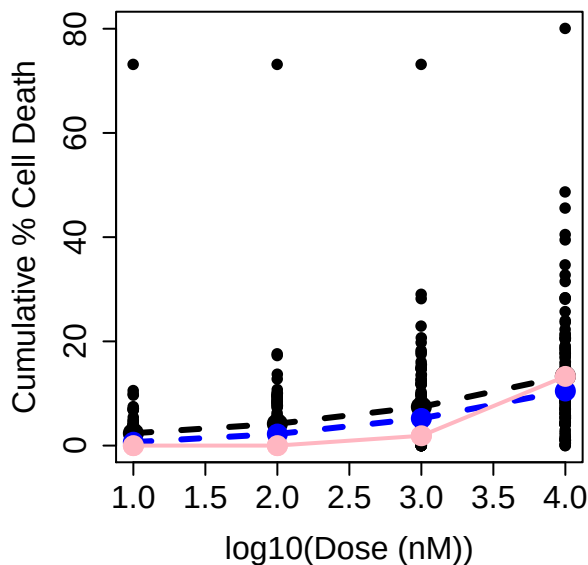
Gemcitabine: Dose-CR



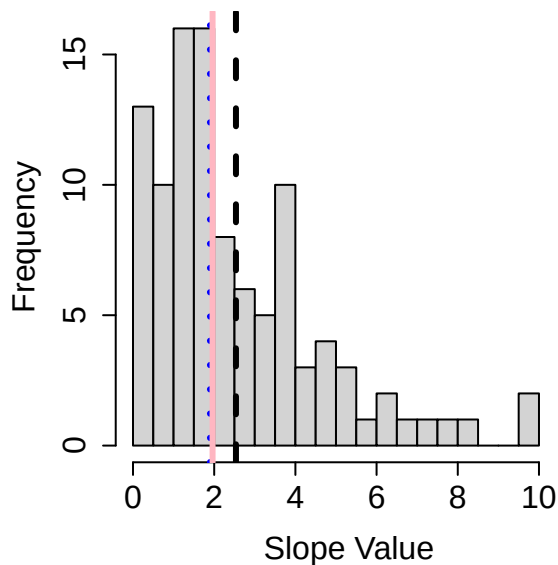
Gemcitabine: Slope Distribution



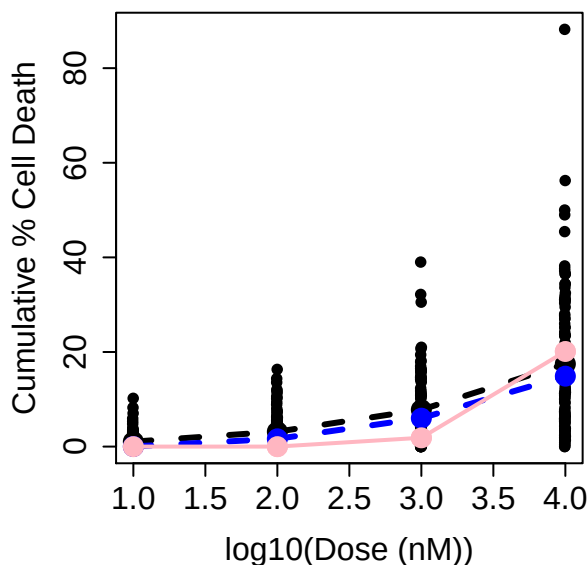
Etoposide: Dose-CR



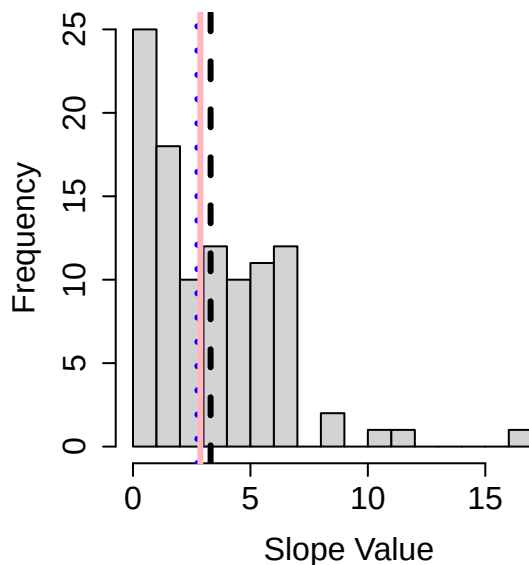
Etoposide: Slope Distribution



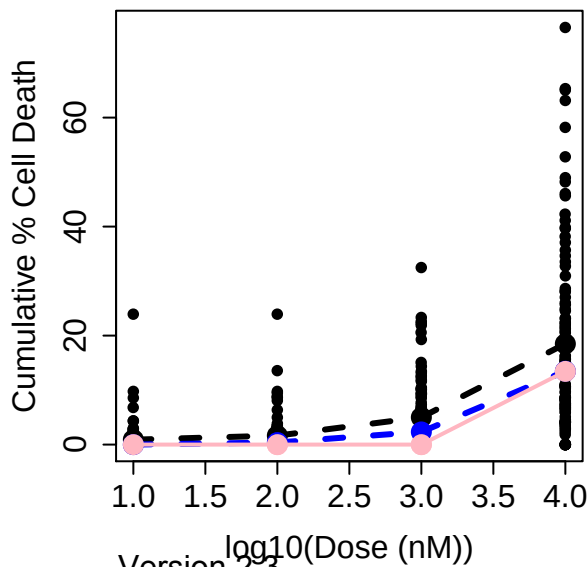
Bleomycin: Dose-CR



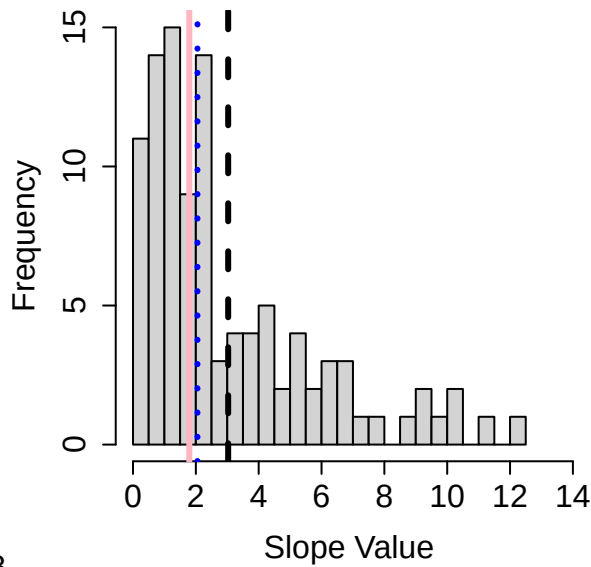
Bleomycin: Slope Distribution



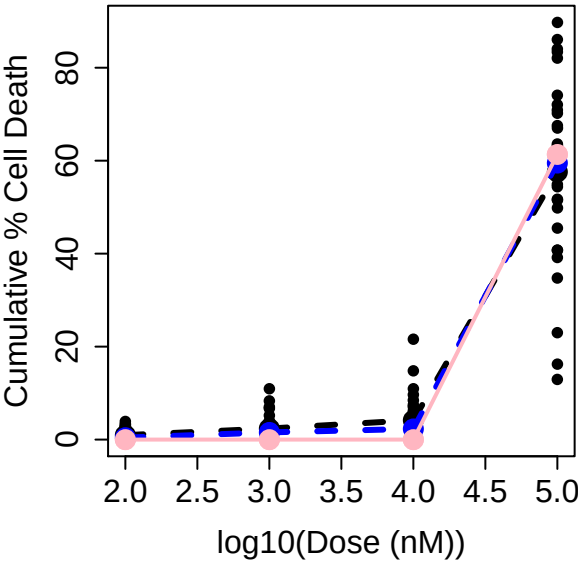
Vorinostat: Dose-CR



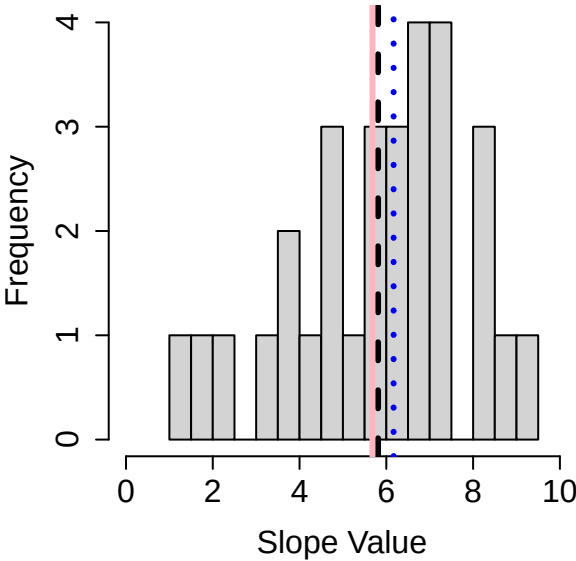
Vorinostat: Slope Distribution



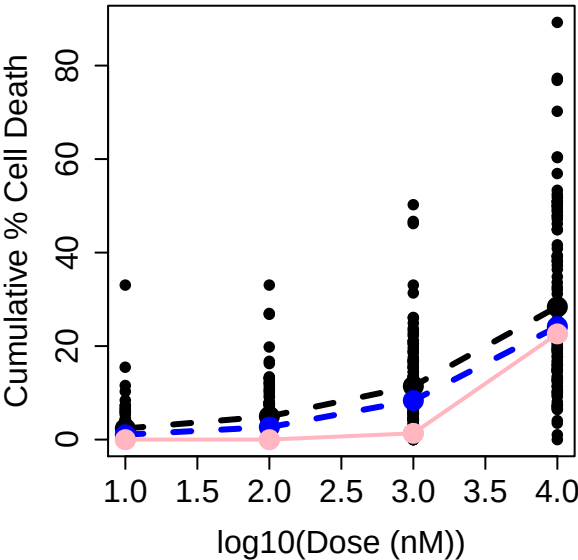
Lomustine: Dose-CR



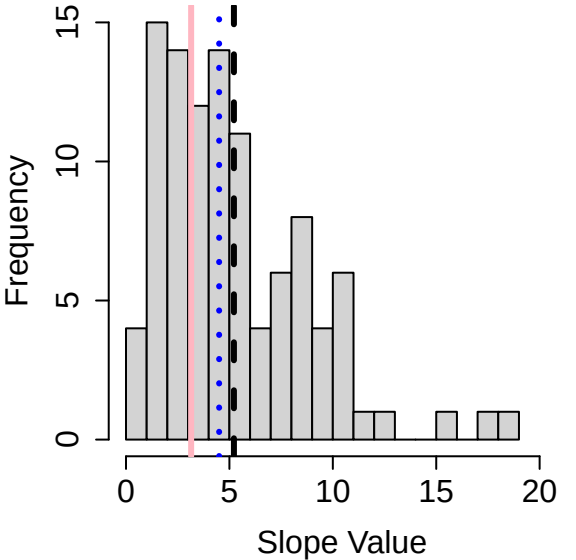
Lomustine: Slope Distribution



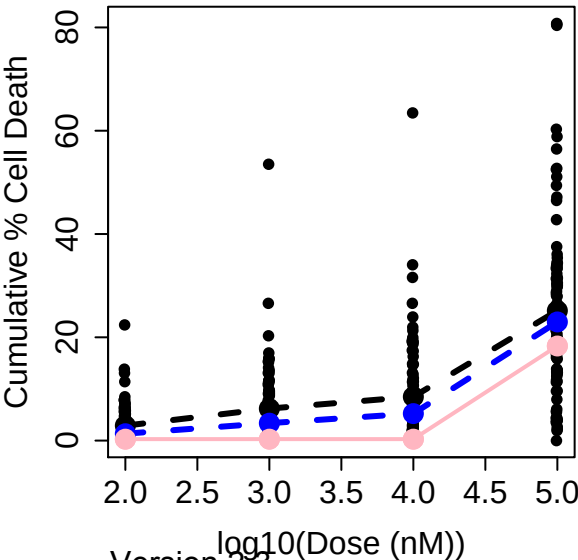
Teniposide: Dose-CR



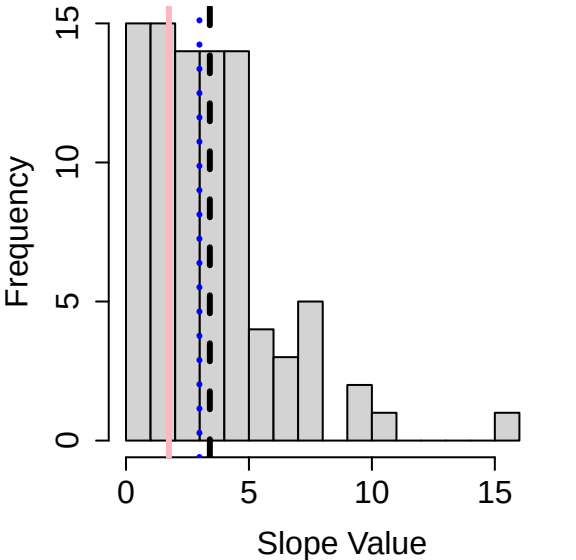
Teniposide: Slope Distribution



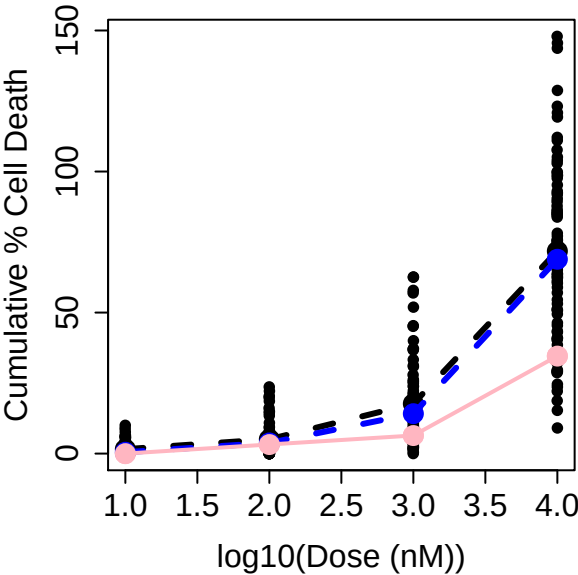
Carmustine: Dose-CR



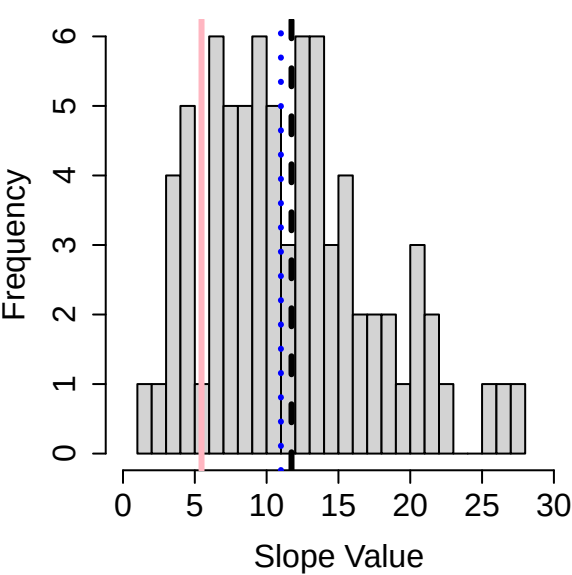
Carmustine: Slope Distribution



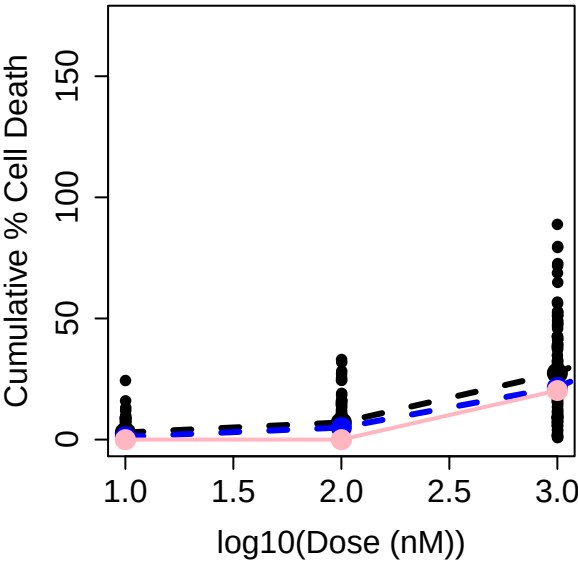
Mitomycin C: Dose-CR



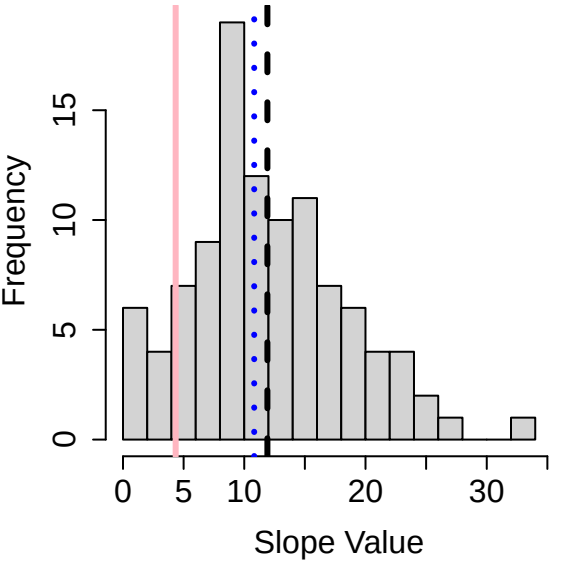
Mitomycin C: Slope Distribution



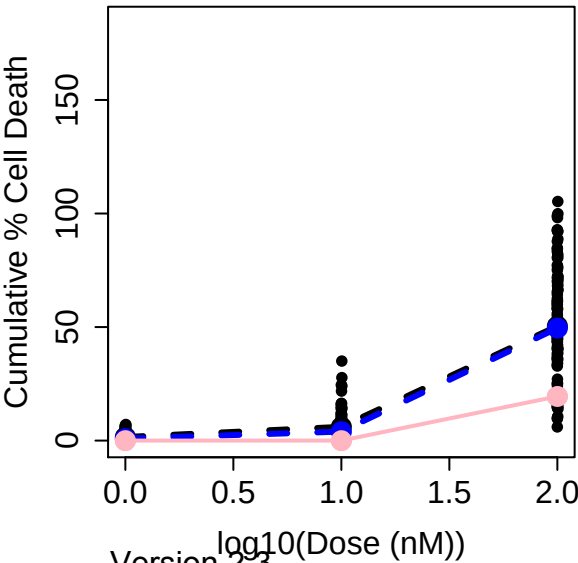
Doxorubicin: Dose-CR



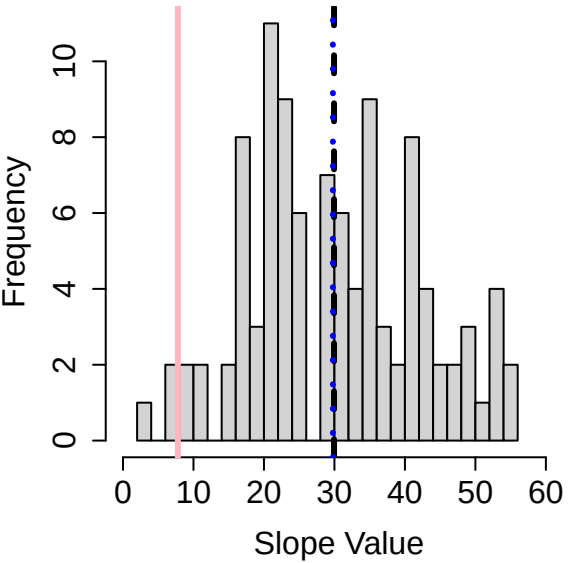
Doxorubicin: Slope Distribution



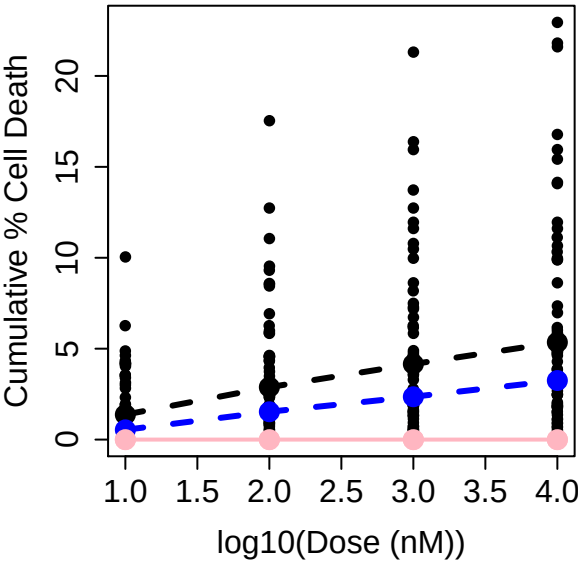
Mitoxantrone: Dose-CR



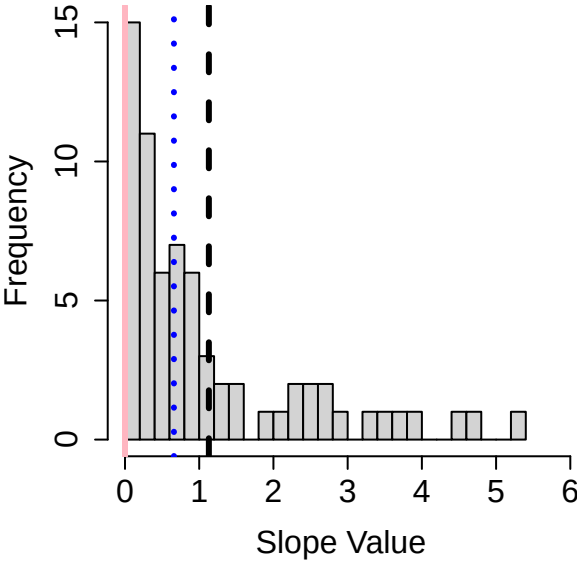
Mitoxantrone: Slope Distribution



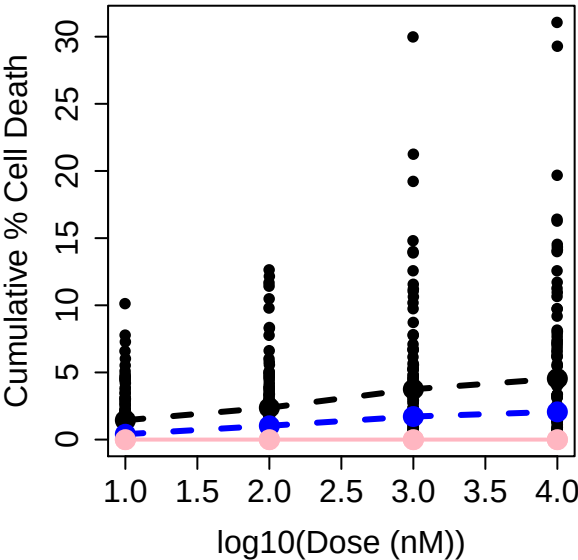
Cyclophosphamide: Dose-CR



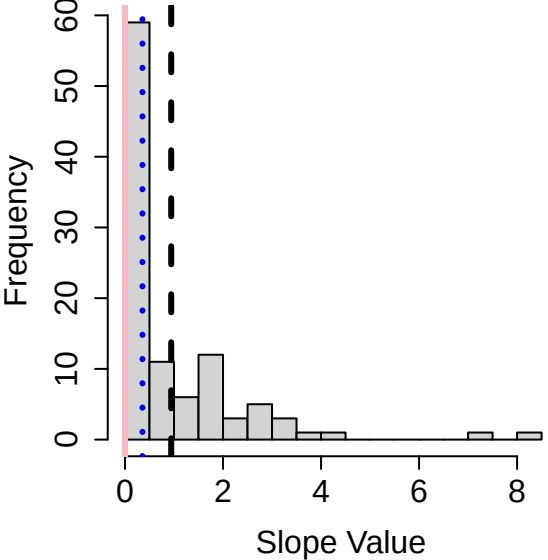
Cyclophosphamide: Slope Distribution



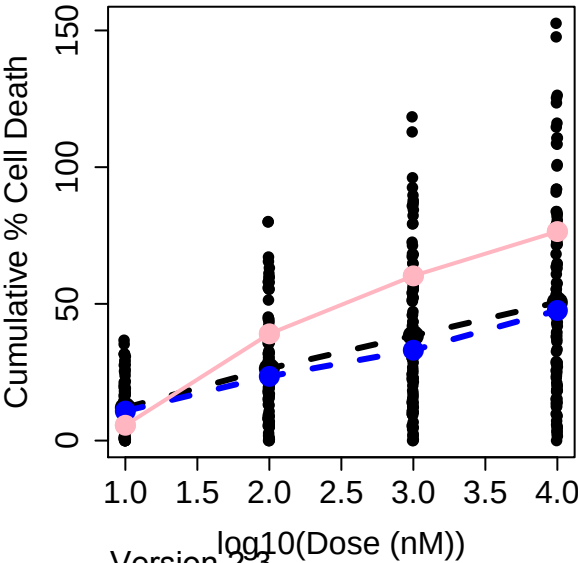
Dacarbazine: Dose-CR



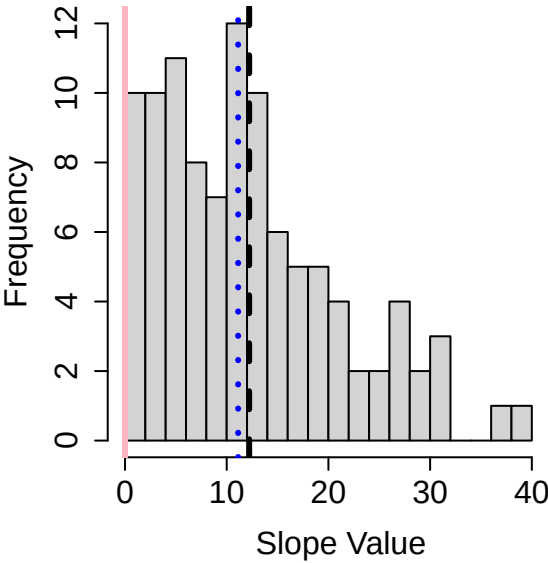
Dacarbazine: Slope Distribution



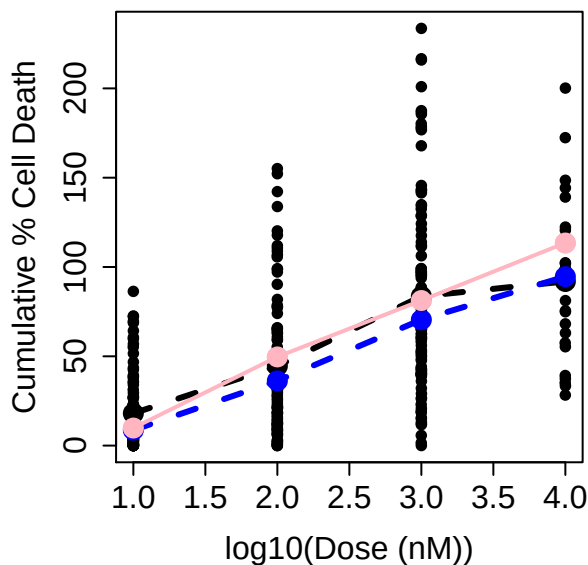
Epothilone B: Dose-CR



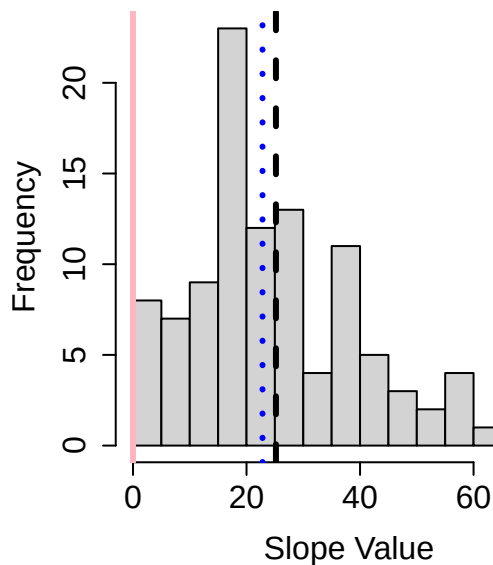
Epothilone B: Slope Distribution



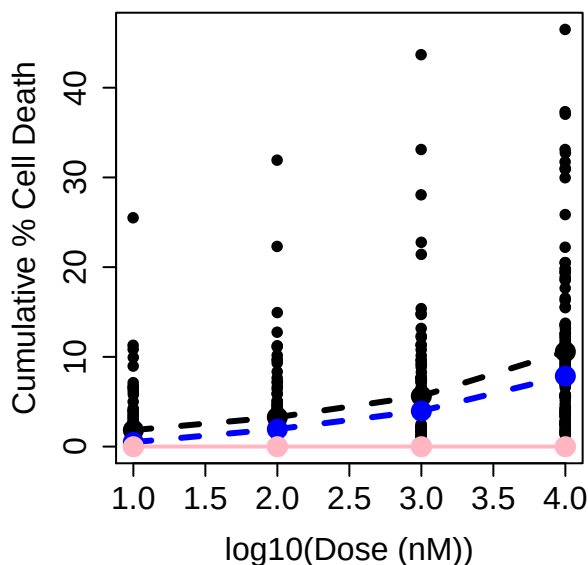
Irinotecan: Dose-CR



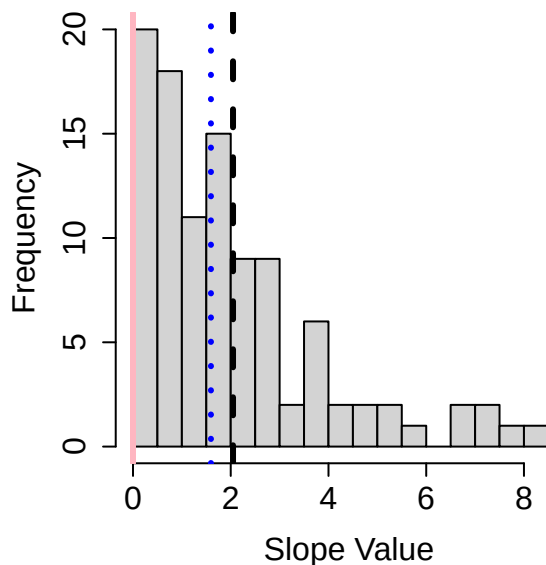
Irinotecan: Slope Distribution



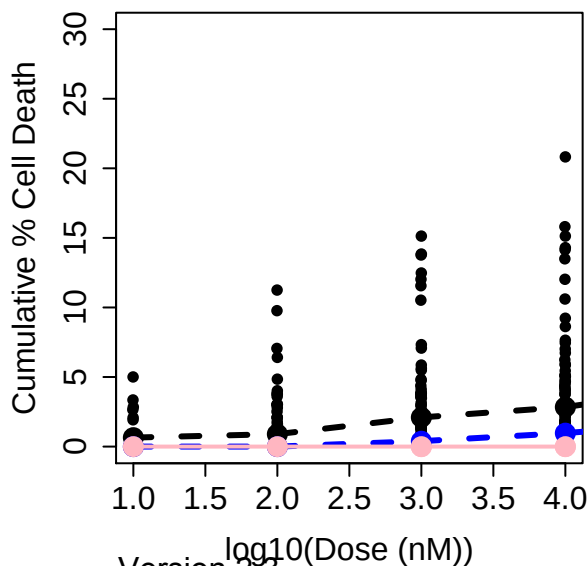
Oxaliplatin: Dose-CR



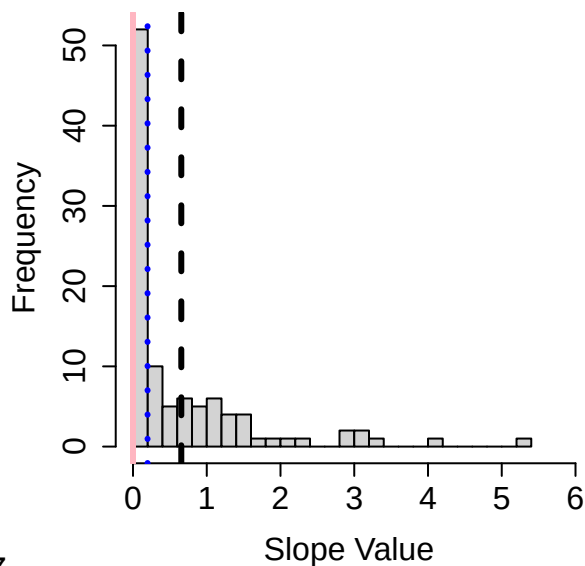
Oxaliplatin: Slope Distribution



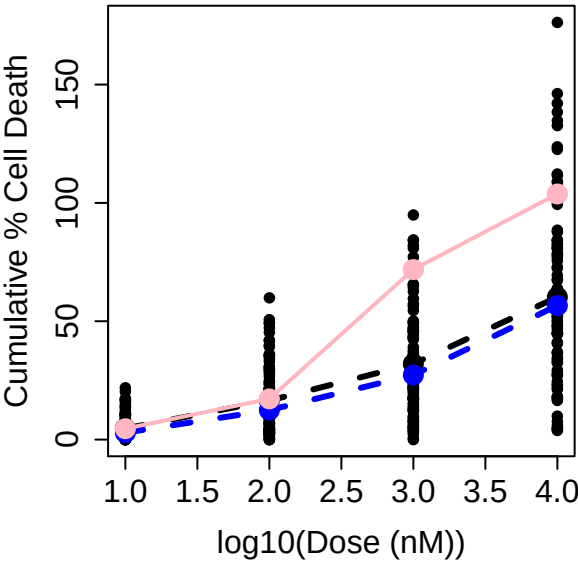
Temozolomide: Dose-CR



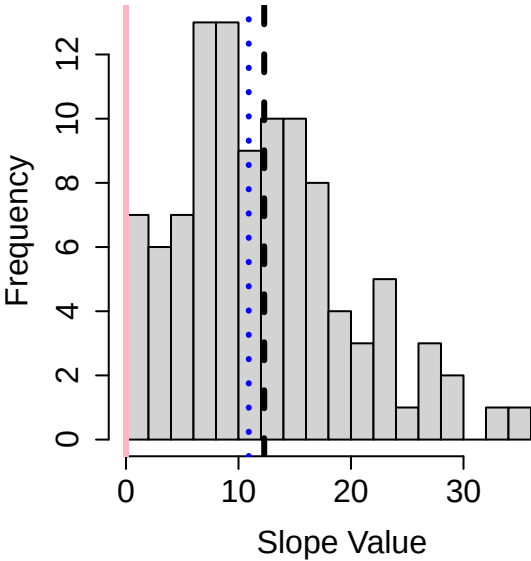
Temozolomide: Slope Distribution



Topotecan: Dose-CR



Topotecan: Slope Distribution



Graphs of all targeted drugs in order of percentile (high to low)

Two plots show comparisons to historical data for each drug

- 1) Cumulative response % cell death
- 2) Frequency of patients with slope values

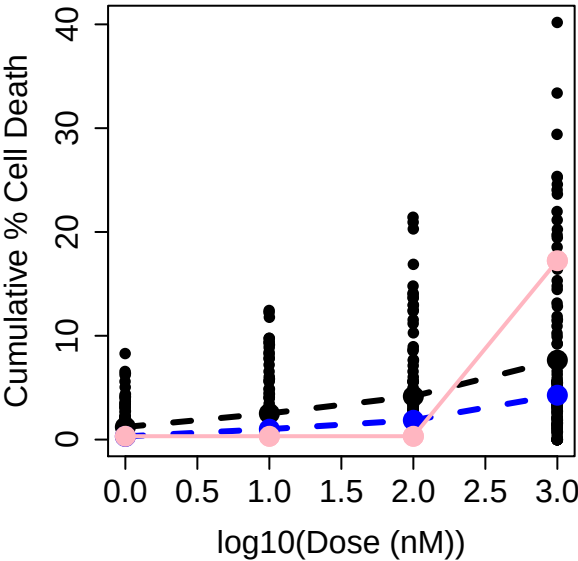
Key to colour coding

Grey - historical distribution,
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Pink - patient sample

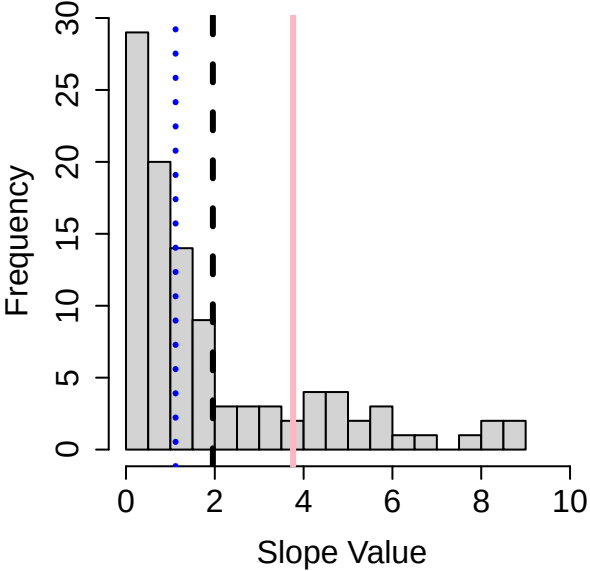
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High responses must be interpreted accordingly.

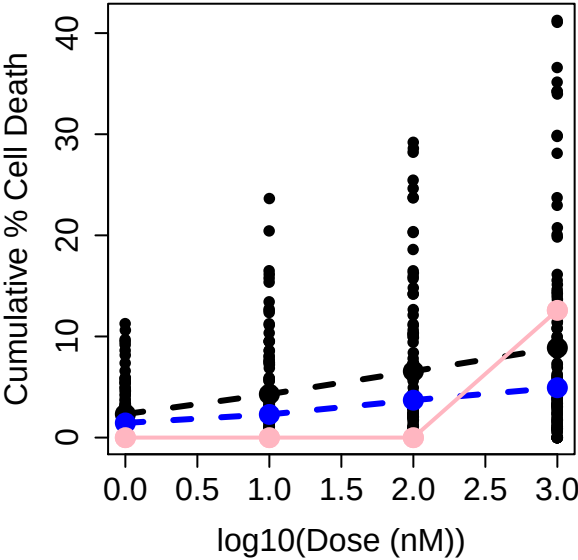
Nilotinib: Dose-CR



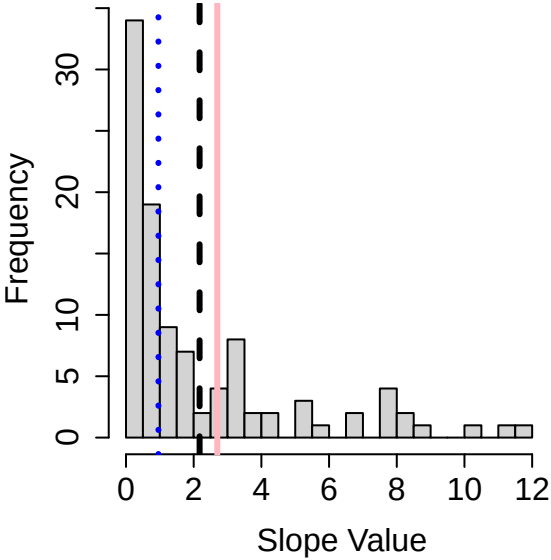
Nilotinib: Slope Distribution



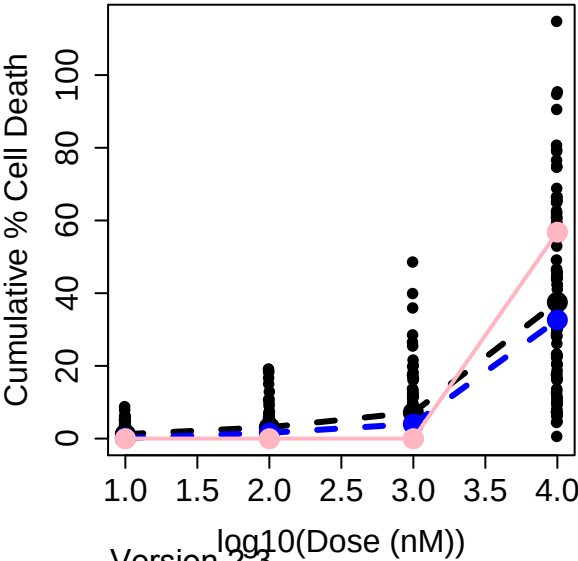
Rapamycin: Dose-CR



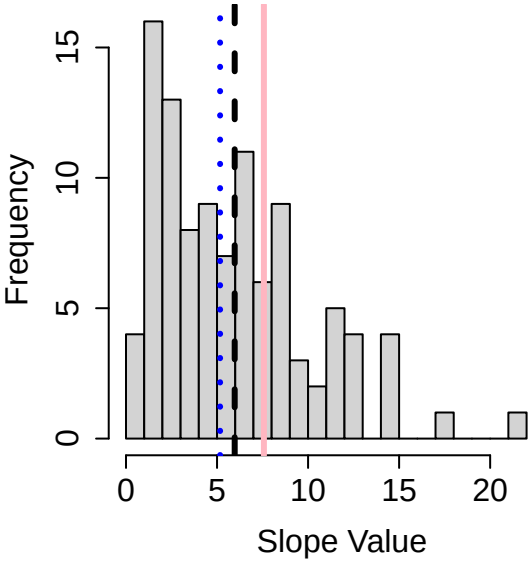
Rapamycin: Slope Distribution



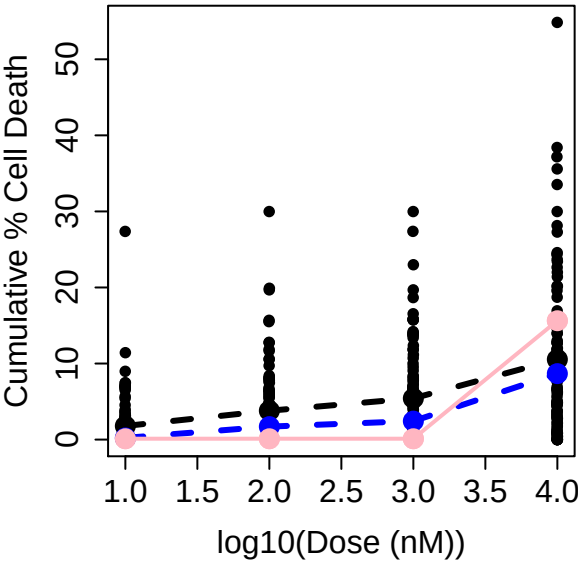
Crizotinib: Dose-CR



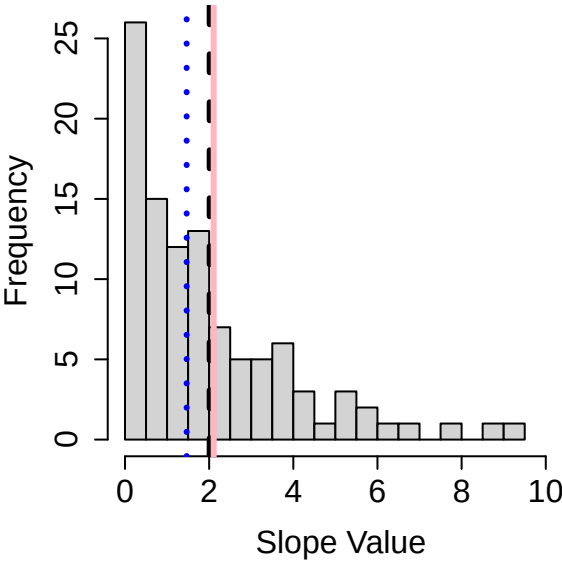
Crizotinib: Slope Distribution



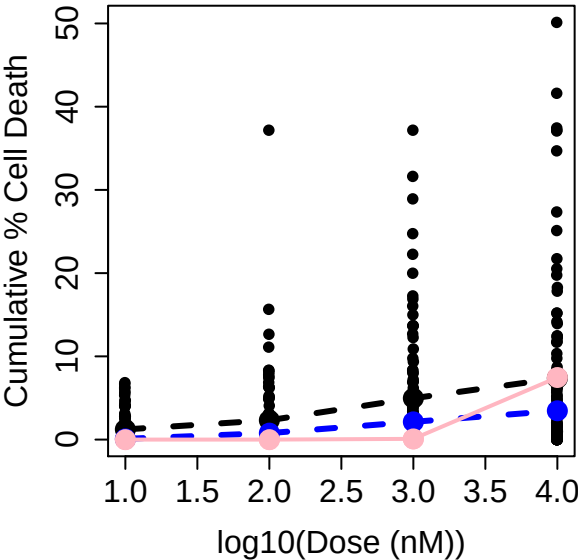
Vismodegib: Dose-CR



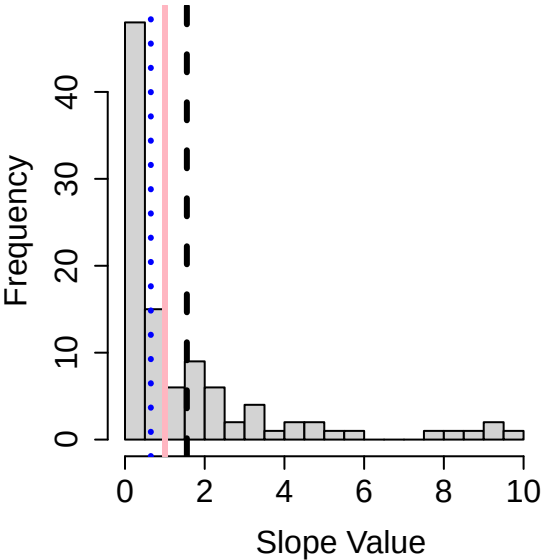
Vismodegib: Slope Distribution



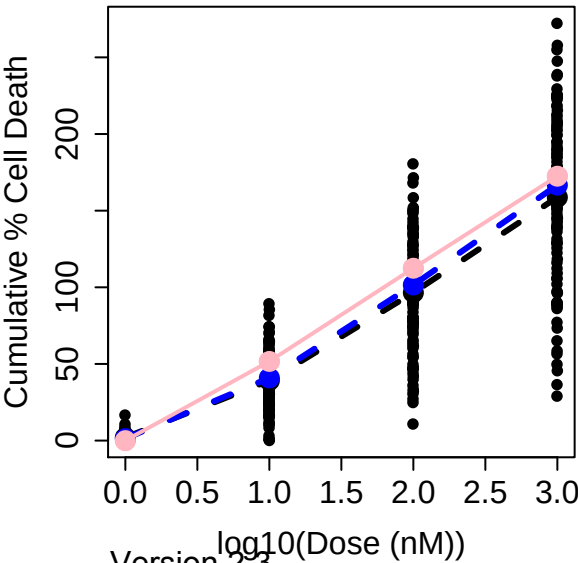
Dabrafenib: Dose-CR



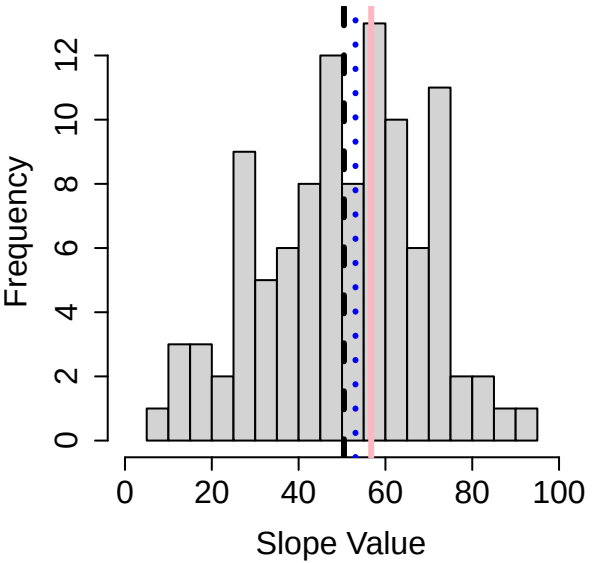
Dabrafenib: Slope Distribution



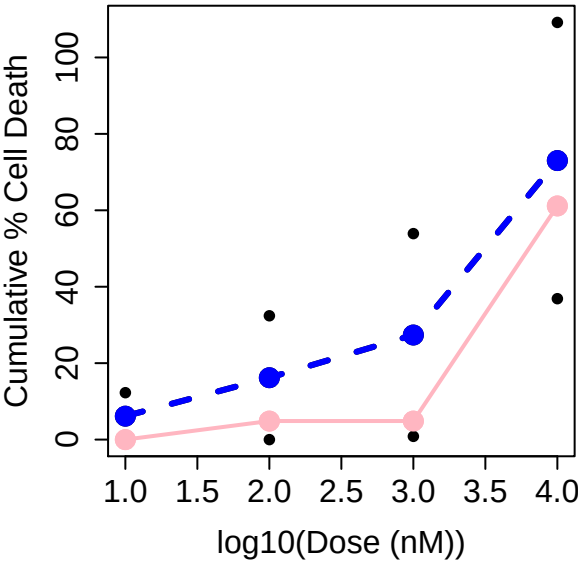
Bortezomib: Dose-CR



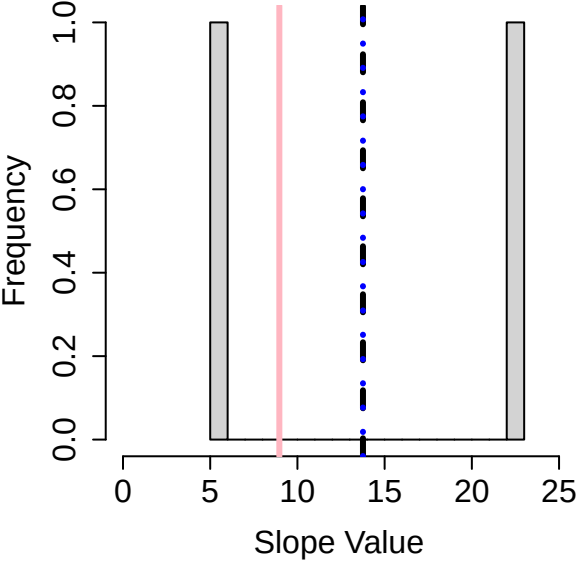
Bortezomib: Slope Distribution



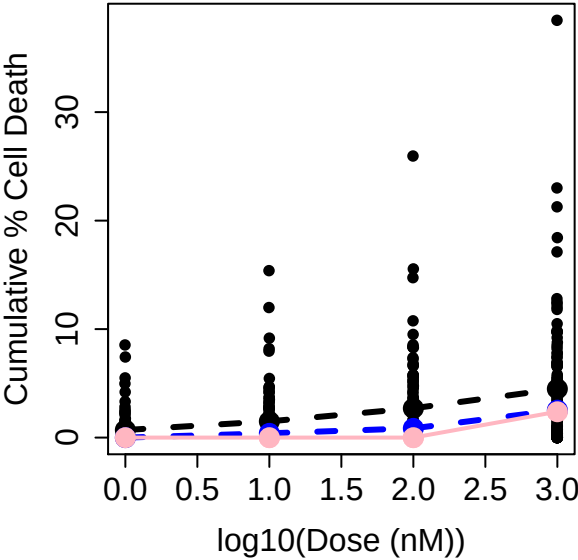
Afatinib: Dose-CR



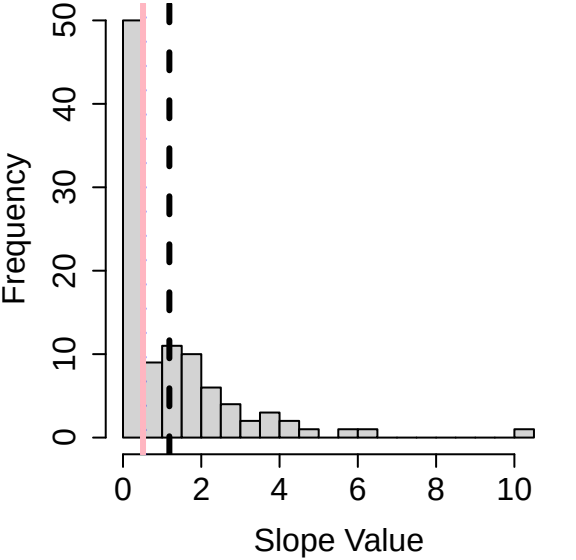
Afatinib: Slope Distribution



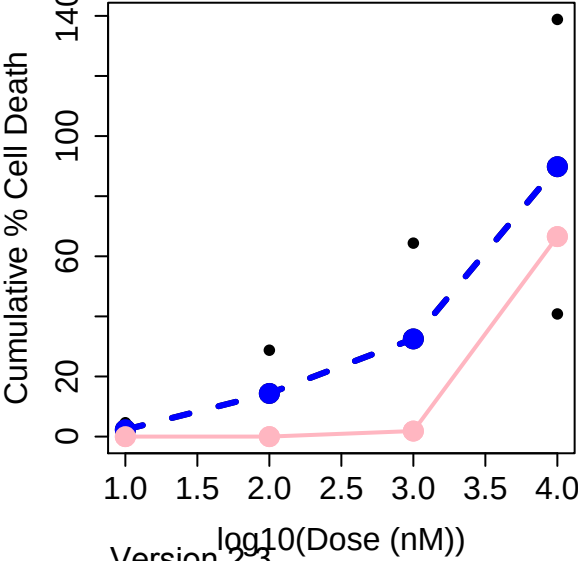
Cabozantinib: Dose-CR



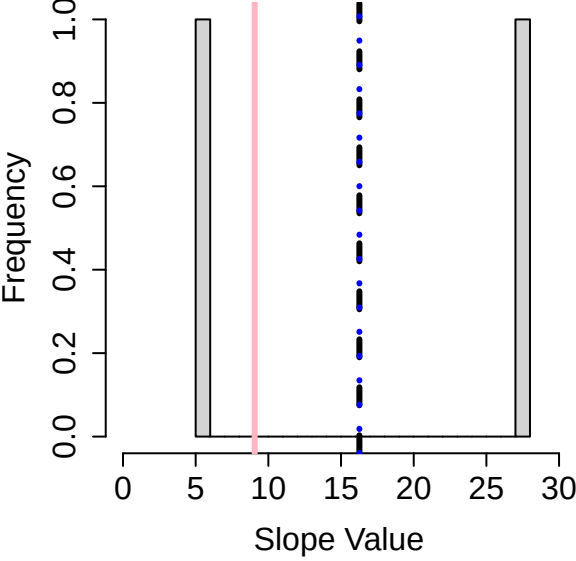
Cabozantinib: Slope Distribution



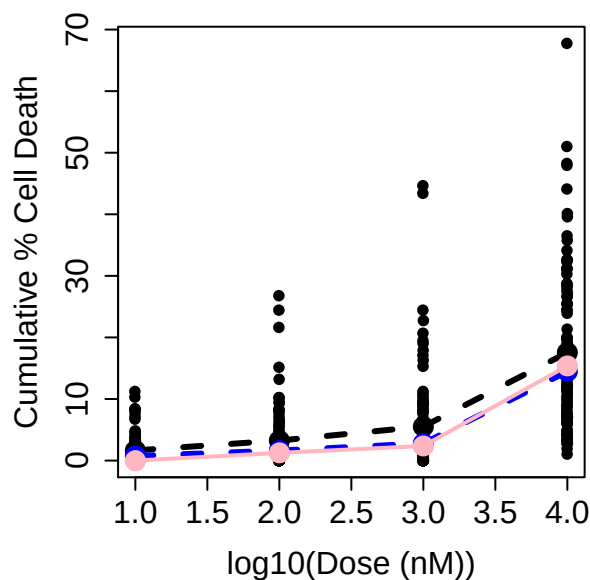
Osimertinib: Dose-CR



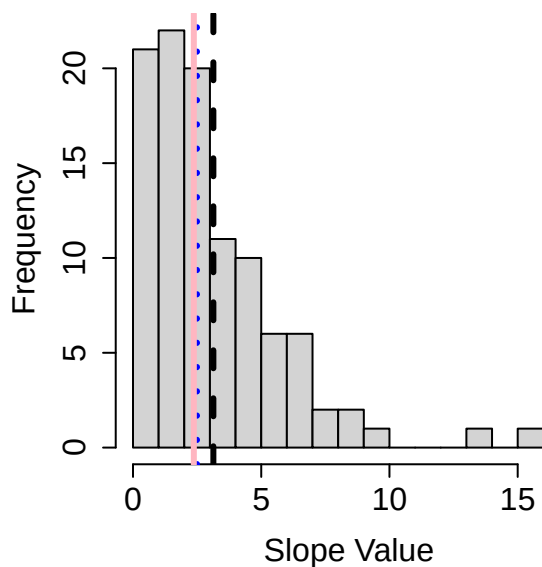
Osimertinib: Slope Distribution



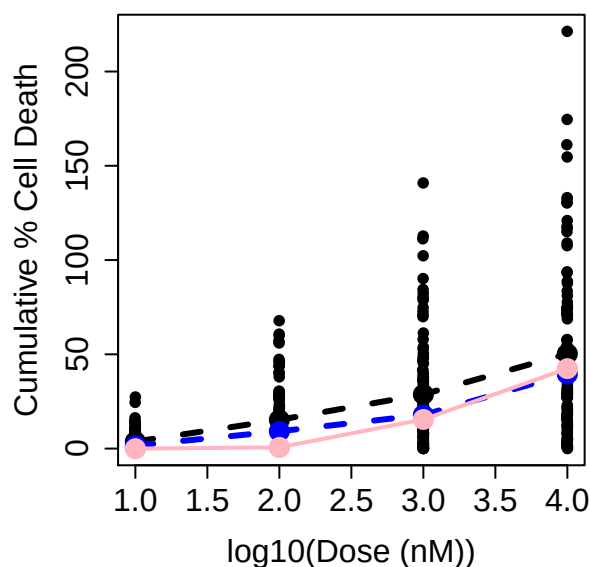
Vemurafenib: Dose-CR



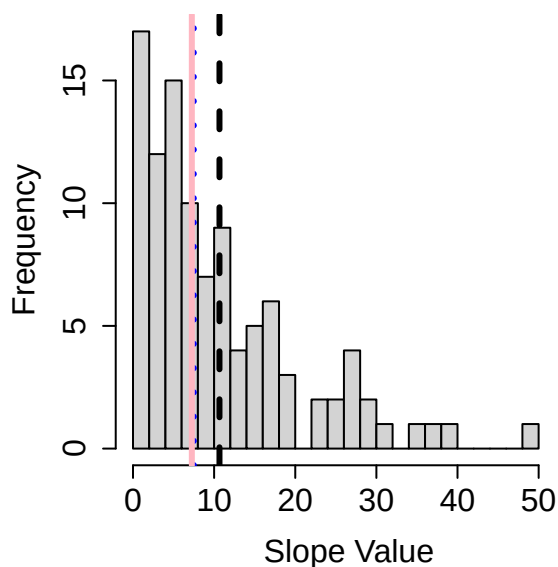
Vemurafenib: Slope Distribution



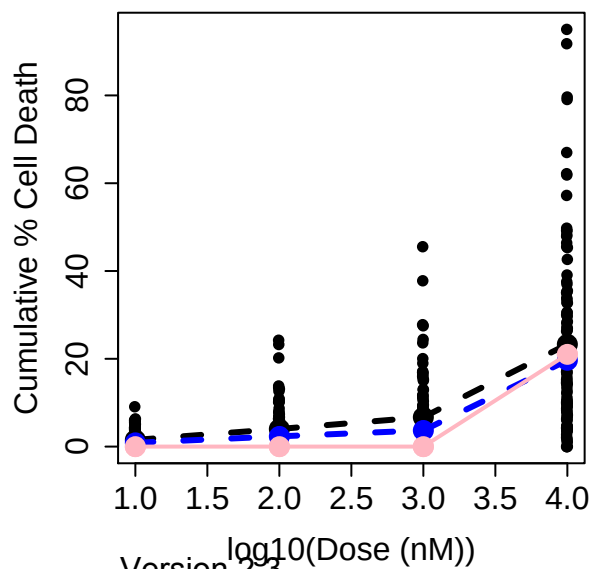
Dasatinib: Dose-CR



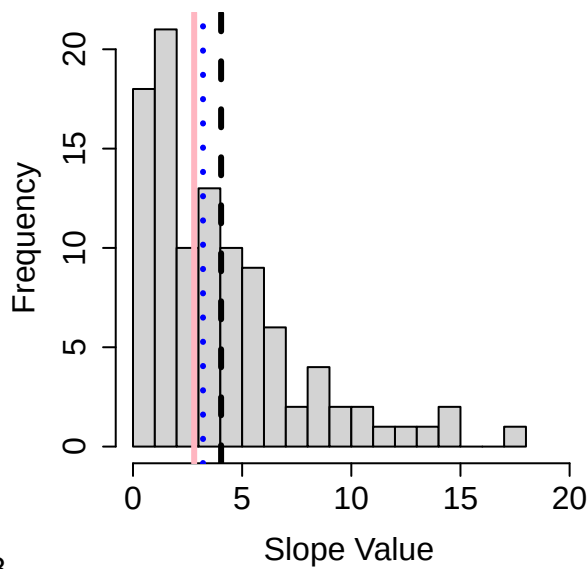
Dasatinib: Slope Distribution



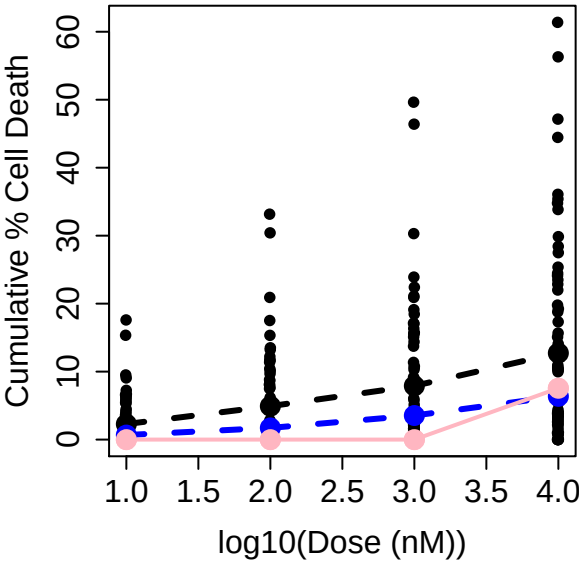
Sunitinib: Dose-CR



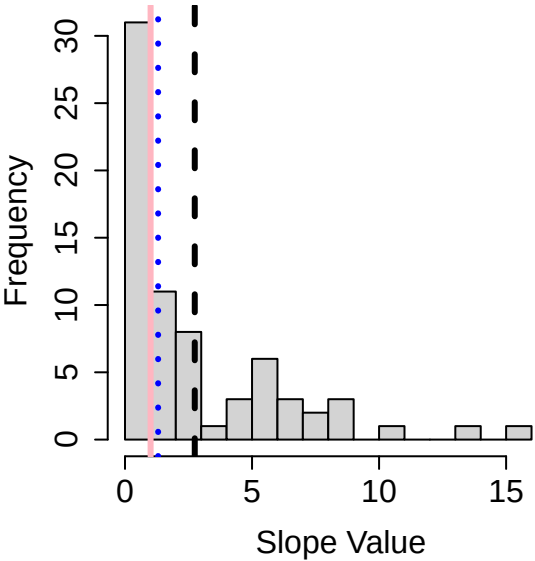
Sunitinib: Slope Distribution



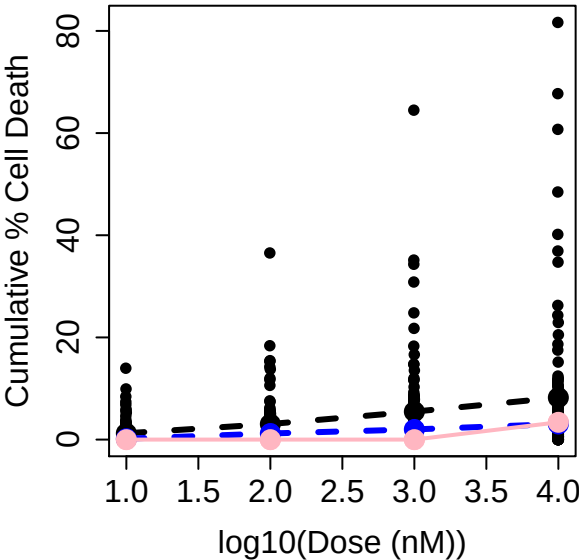
Everolimus: Dose-CR



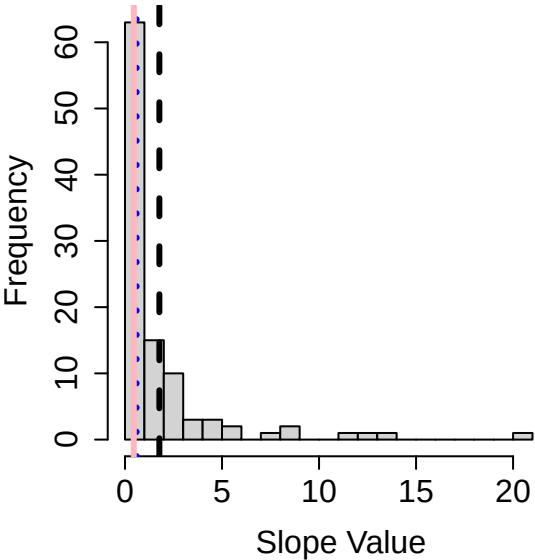
Everolimus: Slope Distribution



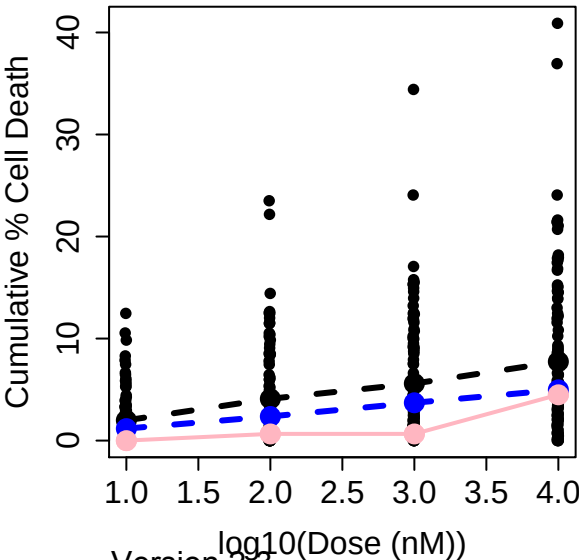
Ruxolitinib: Dose-CR



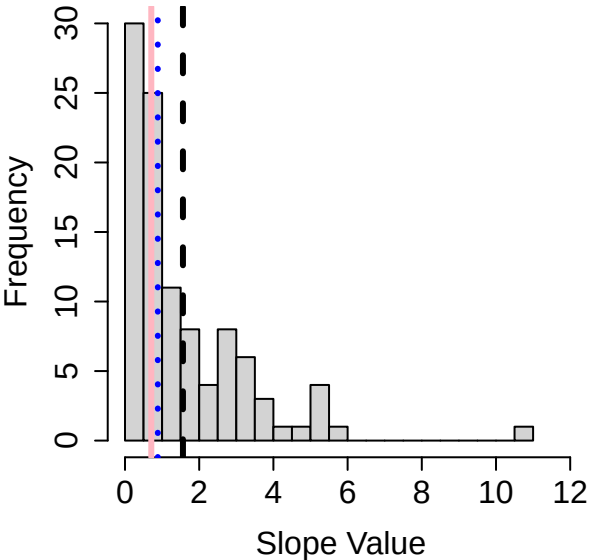
Ruxolitinib: Slope Distribution



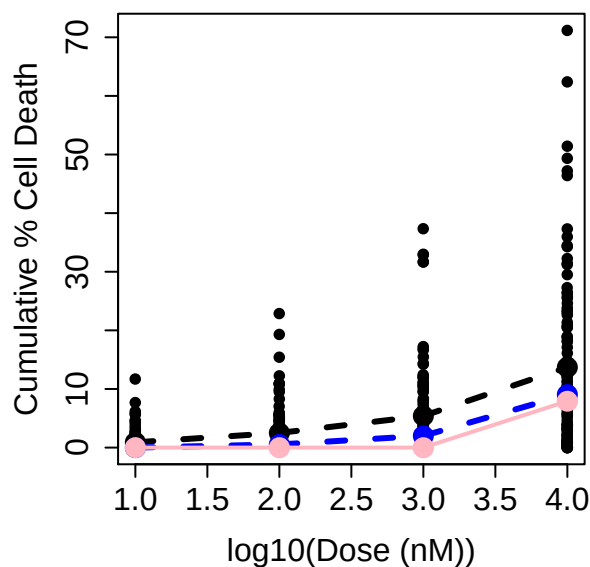
Olaparib: Dose-CR



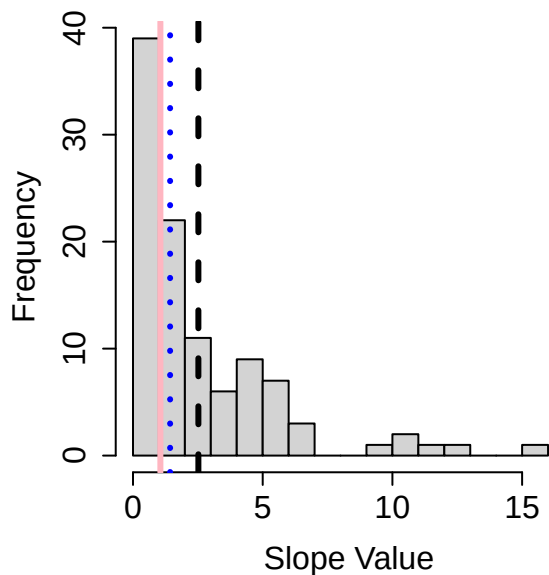
Olaparib: Slope Distribution



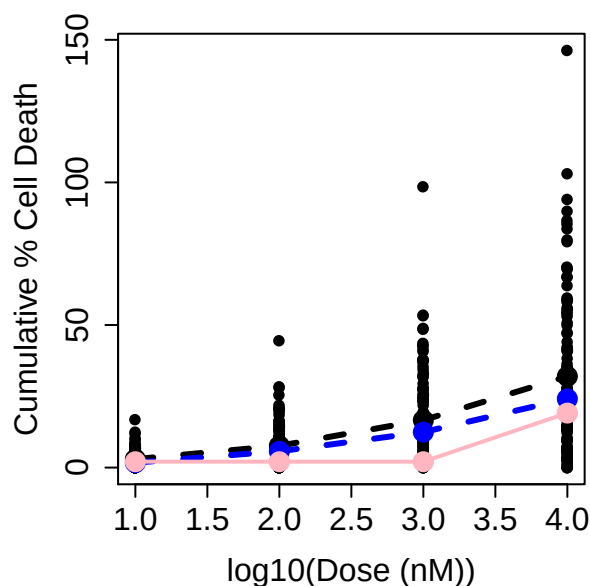
Pazopanib: Dose-CR



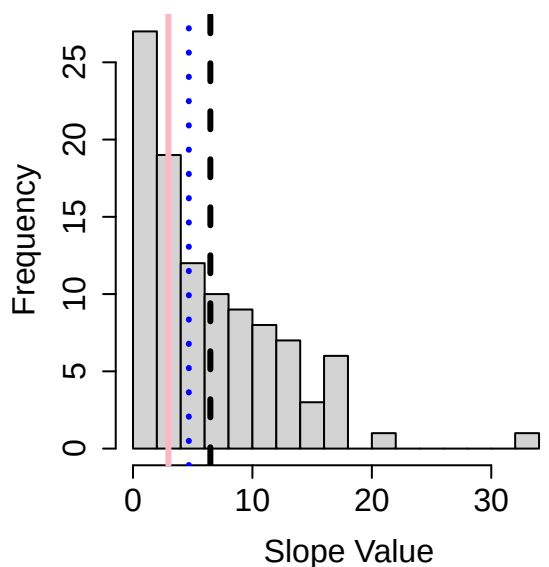
Pazopanib: Slope Distribution



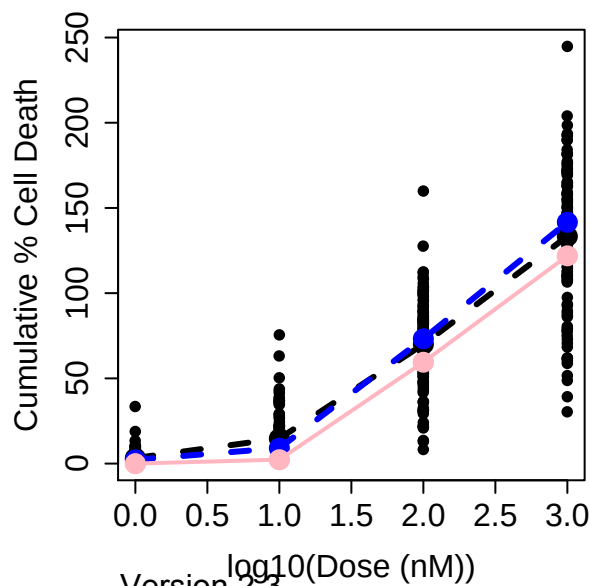
Gefitinib: Dose-CR



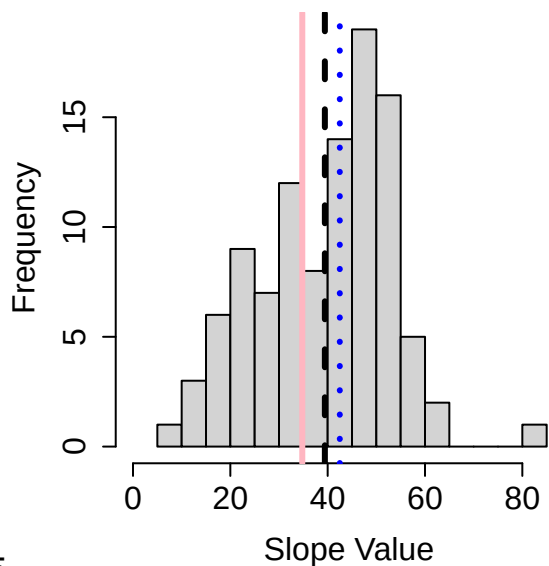
Gefitinib: Slope Distribution



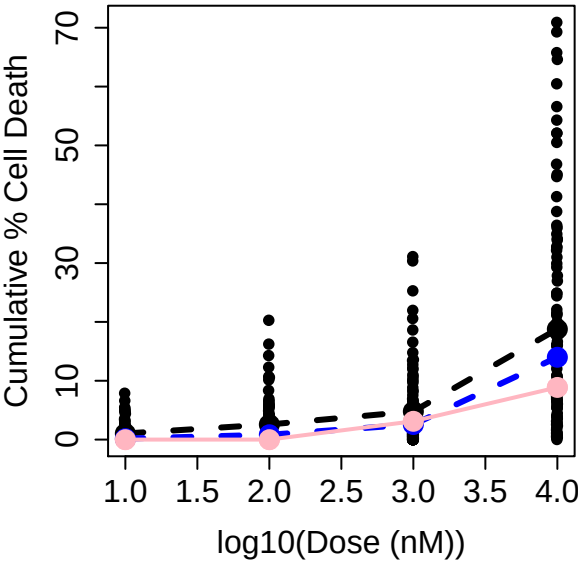
Carfilzomib: Dose-CR



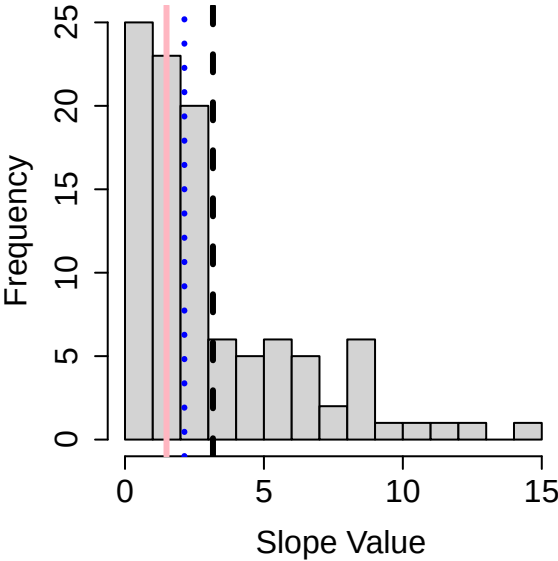
Carfilzomib: Slope Distribution



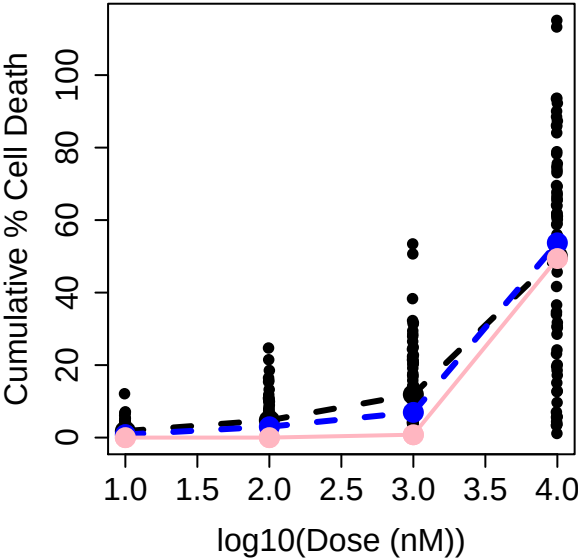
Sorafenib: Dose-CR



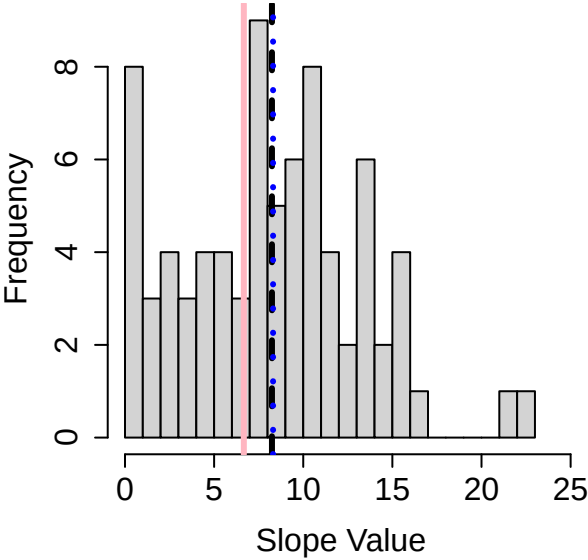
Sorafenib: Slope Distribution



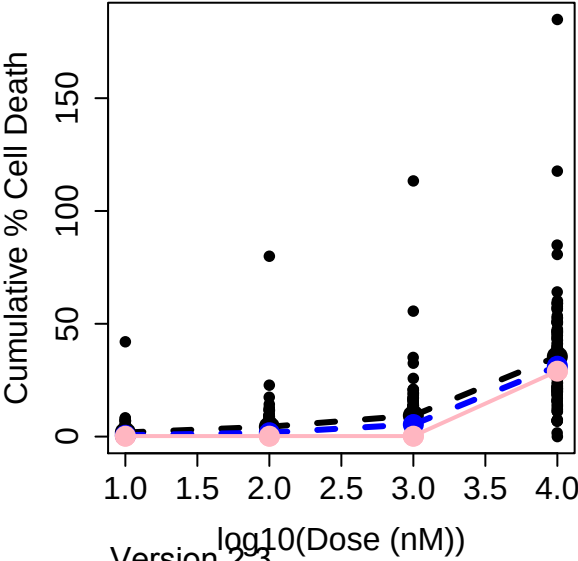
Cediranib: Dose-CR



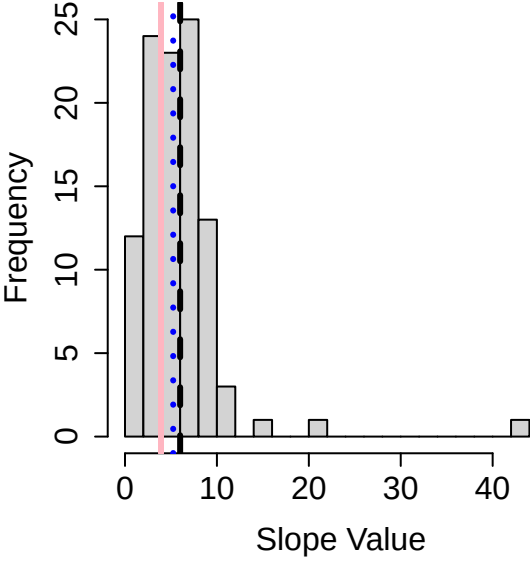
Cediranib: Slope Distribution



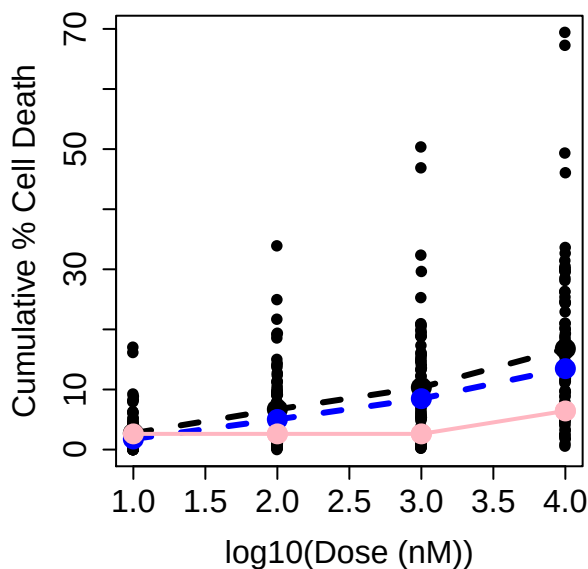
Lapatinib: Dose-CR



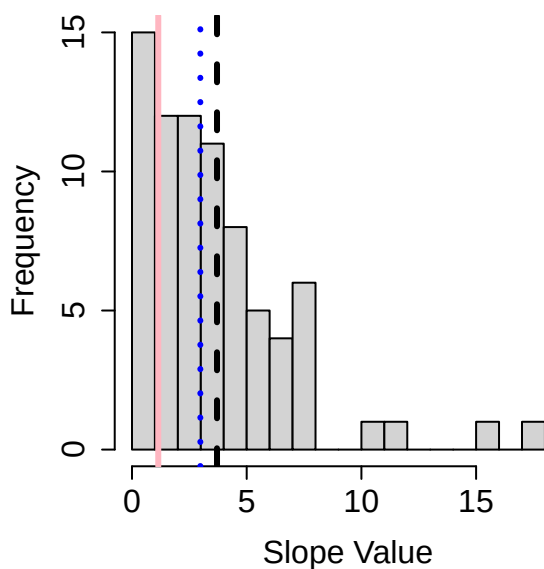
Lapatinib: Slope Distribution



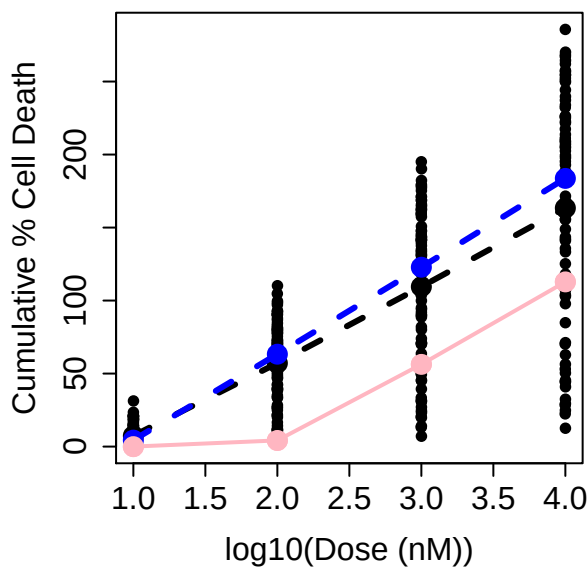
Ribociclib: Dose-CR



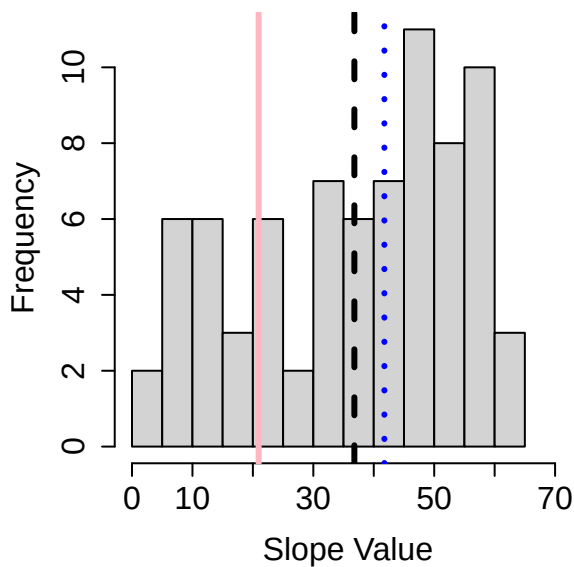
Ribociclib: Slope Distribution



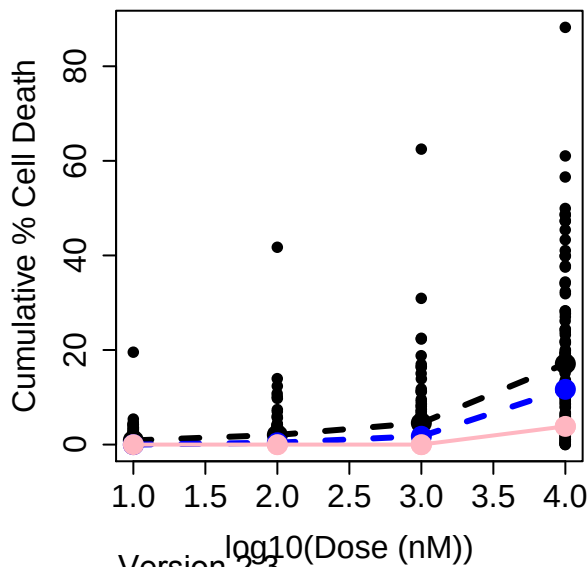
Ganetespib: Dose-CR



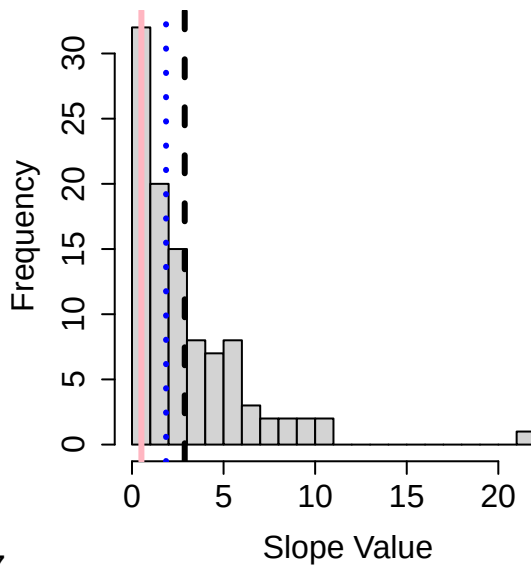
Ganetespib: Slope Distribution



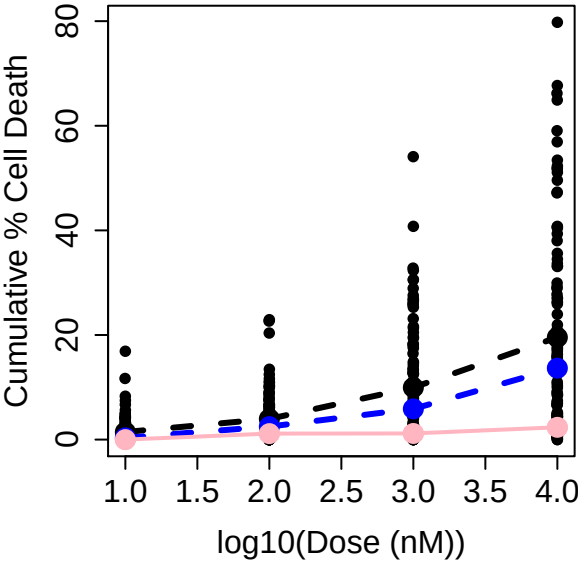
Regorafenib: Dose-CR



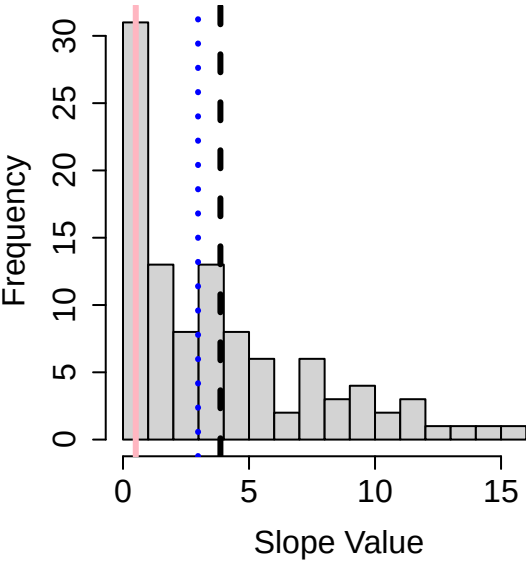
Regorafenib: Slope Distribution



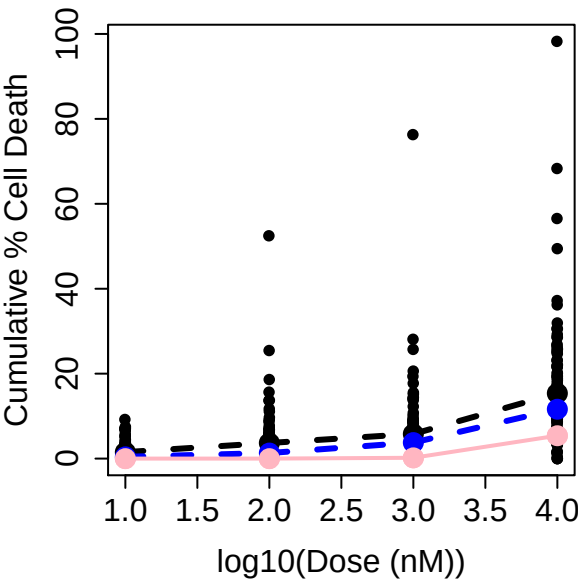
Axitinib: Dose-CR



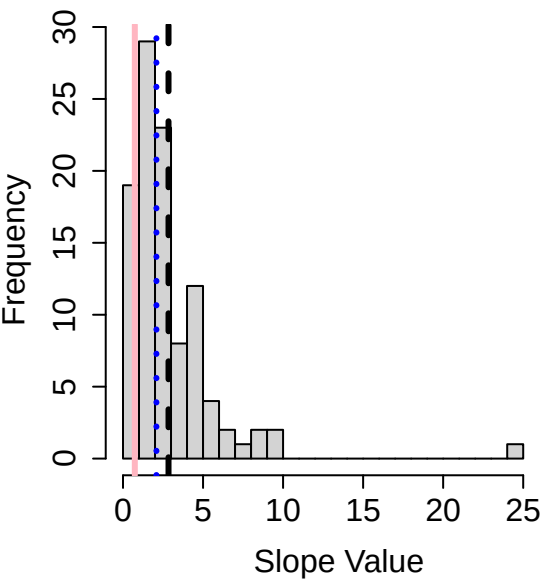
Axitinib: Slope Distribution



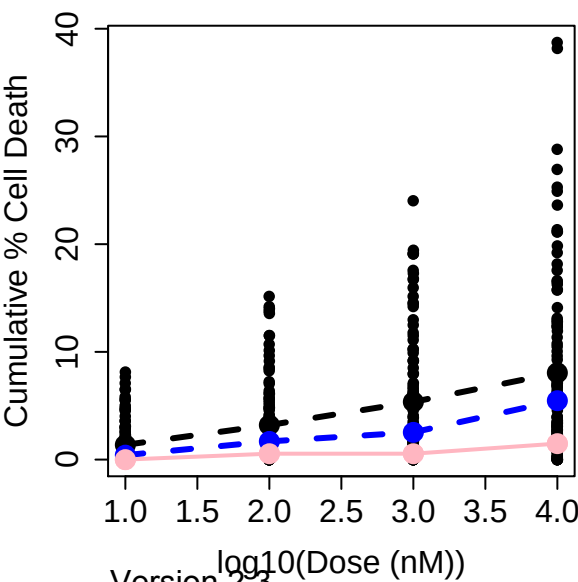
Bosutinib: Dose-CR



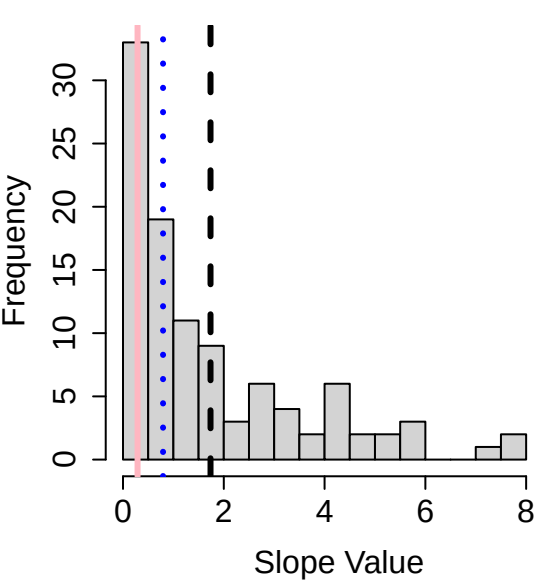
Bosutinib: Slope Distribution



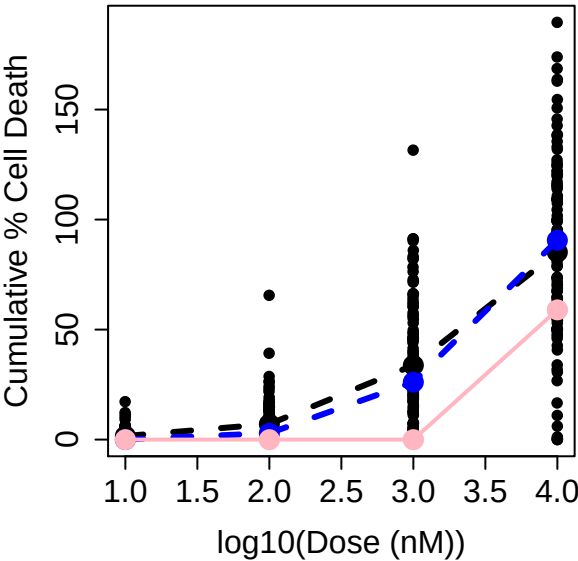
Imatinib: Dose-CR



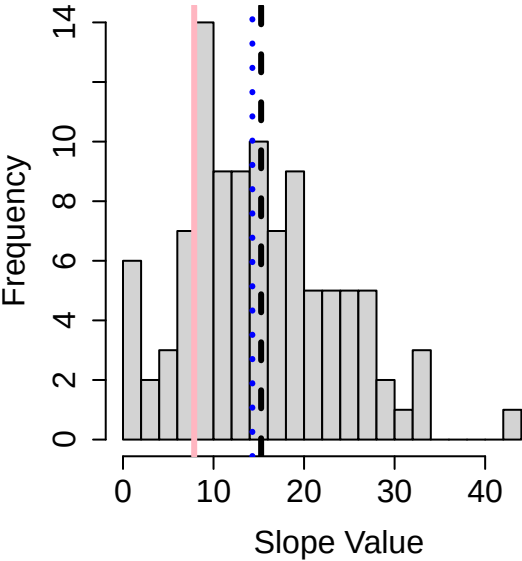
Imatinib: Slope Distribution



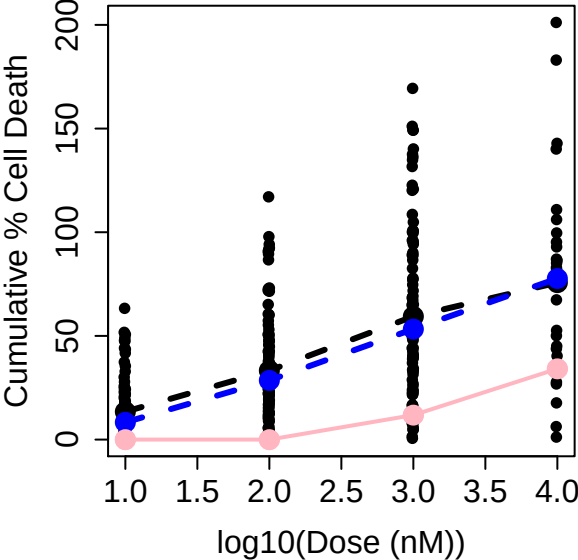
Ponatinib: Dose-CR



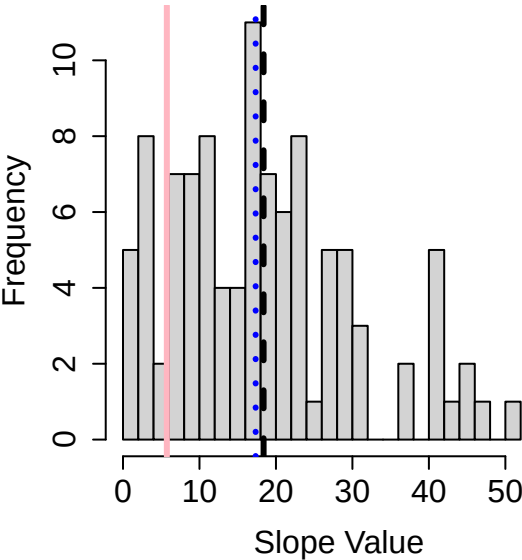
Ponatinib: Slope Distribution



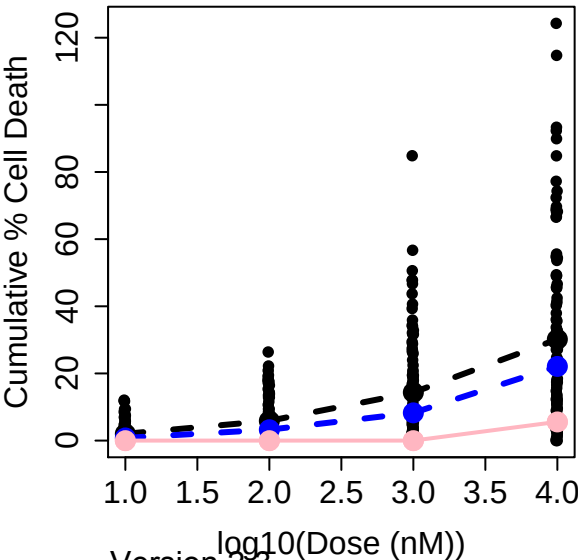
Trametinib: Dose-CR



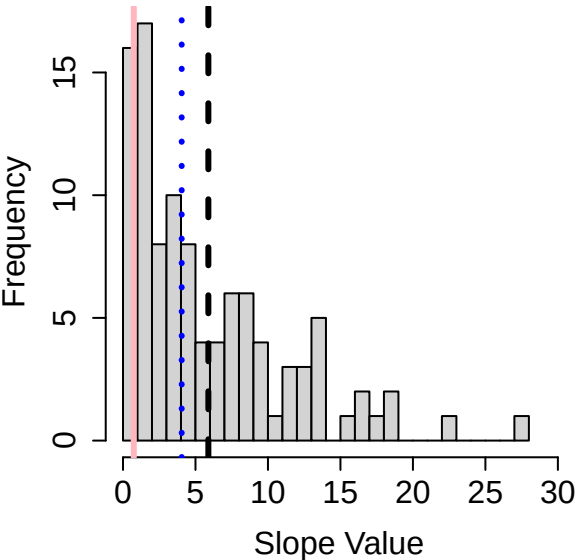
Trametinib: Slope Distribution



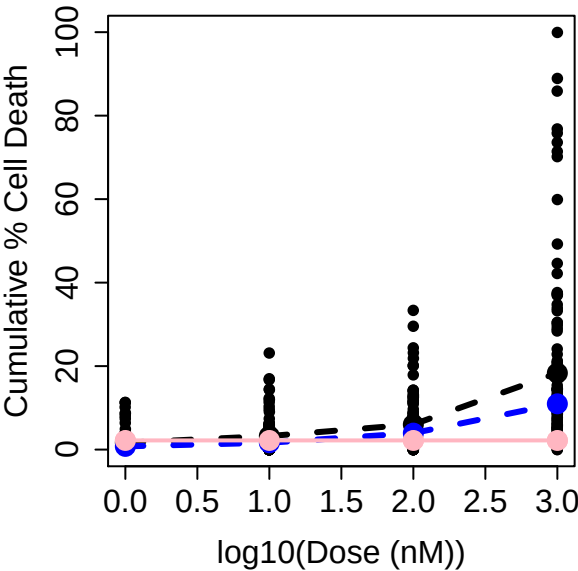
Erlotinib: Dose-CR



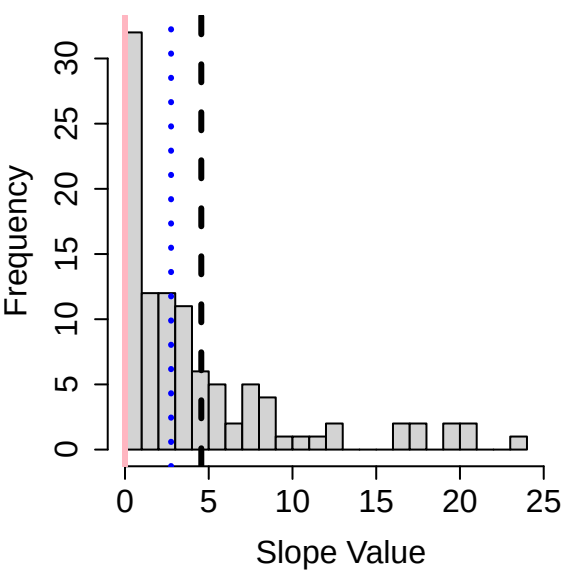
Erlotinib: Slope Distribution



Vandetanib: Dose-CR



Vandetanib: Slope Distribution



PATIENT INFORMATION:	SAMPLE INFORMATION:	REQUESTED BY:
Patient ID: Name: DOB 17-Feb-1979 Sex Female	Diagnosis: Endometrial sarcoma DB used: 1.6 Received: 22-Feb-2019 Supplied: Resection	Dave Jones University of Studies

Summary of predictRx test carried out

Cells received: 22-Feb-2019

Cells Dosed: 18-Feb-2019

Number of replicates: 1

Number of non targeted drugs of potential benefit: 8

Number of targeted drugs with potential benefit: 0

Number of all drugs with intermediate potential benefit: 6

Head of Laboratory: Dr. Joanna Dutko-Gwozdz

Dutko-Gwozdz

Dr G.J.Griffiths (CSO)



predictRx Test Procedure

On receipt of a tumour biopsy, we carry out the following steps:

- 1.** The sample is broken down into a suspension of tumour cells using enzymes and a dissociator designed for this purpose.
- 2.** The tumour cells are added to a microplate containing multiple different drugs including cytotoxic and targeted therapies. Drug plates can also be customized upon request. If the sample yields sufficient cells, 2 identical plates are prepared improving the quality of the data obtained.
- 3.** The cells are incubated with 4 concentrations of each drug in physiological conditions.
- 4.** After 72 hours, fluorescent dyes are added to each well. These identify viable and dead cells and their morphologies.
- 5.** An automated imaging platform collects and analyses images and calculates total and viable cell number and % cell death for each treatment. The data are compiled into a report showing the effect of each drug on the cancer cells tested.