DEDUCE Dose Escalation Recommendations

Trial Design: CRM  
Software: DEDUCE app version 1.0 available [here](https://bengarski.shinyapps.io/DEDUCE/)  
Report Date and Time: 2021-11-09 01:13:18

# Observed Toxicity Data:

|  |  |  |  |
| --- | --- | --- | --- |
| Patient ID | Dose  level | DLT Observed | Include in model |
| C1 | 2 | FALSE | TRUE |
| C1 | 2 | FALSE | TRUE |
| C2 | 2 | FALSE | TRUE |
| C4 | 2 | TRUE | TRUE |
| C5 | 3 | FALSE | TRUE |
| C6 | 3 | FALSE | TRUE |
| C7 | 3 | TRUE | TRUE |

# 

# Toxicity Probability Results:

(90 Percent Probability Interval)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Dose level | Prior Prob. Of DLT | # Patients | # DLTs | Posterior Prob. of DLT | Lower Limit | Upper Limit |
| -1 | 0.05 | 0 | 0 | 0.136 | 0.0159 | 0.384 |
| 1 | 0.12 | 4 | 1 | 0.244 | 0.0534 | 0.507 |
| 2 | 0.20 | 3 | 1 | 0.343 | 0.1080 | 0.598 |
| 3 | 0.30 | 0 | 0 | 0.449 | 0.1890 | 0.680 |

Next Recommended Dose Level: 1

Recommendation is Based on a Target Toxicity Probability of 0.2

# Additional Details:

Current Dose Level: 1

Cohort Size: 3

Number of Slots Remaining at Current Dose Level: 2

# Dose Escalation Rules:

* No dose skipping upon dose escalation
* Intra-cohort dose de-escalation is allowed
* Intra-cohort dose escalation is not allowed

# Estimation Details:

Empiric Dose-Toxicity Model:   
dose = 0.05, 0.12, 0.2, 0.3

Normal Prior on Beta with Mean 0 and Variance 1.34

Posterior Mean of Beta: -0.408091

Posterior Variance of Beta: 0.1978329