SOP # A-226-02-039Y

STANDARD OPERATING PROCEDURES

SUSPENSION PROTOCOL
DISSOLUTION TEST VALIDATION.

SUSPENSIONS

ANALYTICAL METHOD VALIDATION

DISSOLUTION TEST PROTOCOL

DOSAGE FORM:
SUSPENSION - 250mg/mL

Method Number SI-226-02
Edition Number 01
Effective Date / / 199Y

Prepared by: _____ Date: _____

Reviewed by: _____ Date: _____

Approved by: _____ Date: _____

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SUSPENSION PROTOCOL DISSOLUTION TEST VALIDATION.

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SUSPENSION PROTOCOL DISSOLUTION TEST VALIDATION.

1. LINEARITY

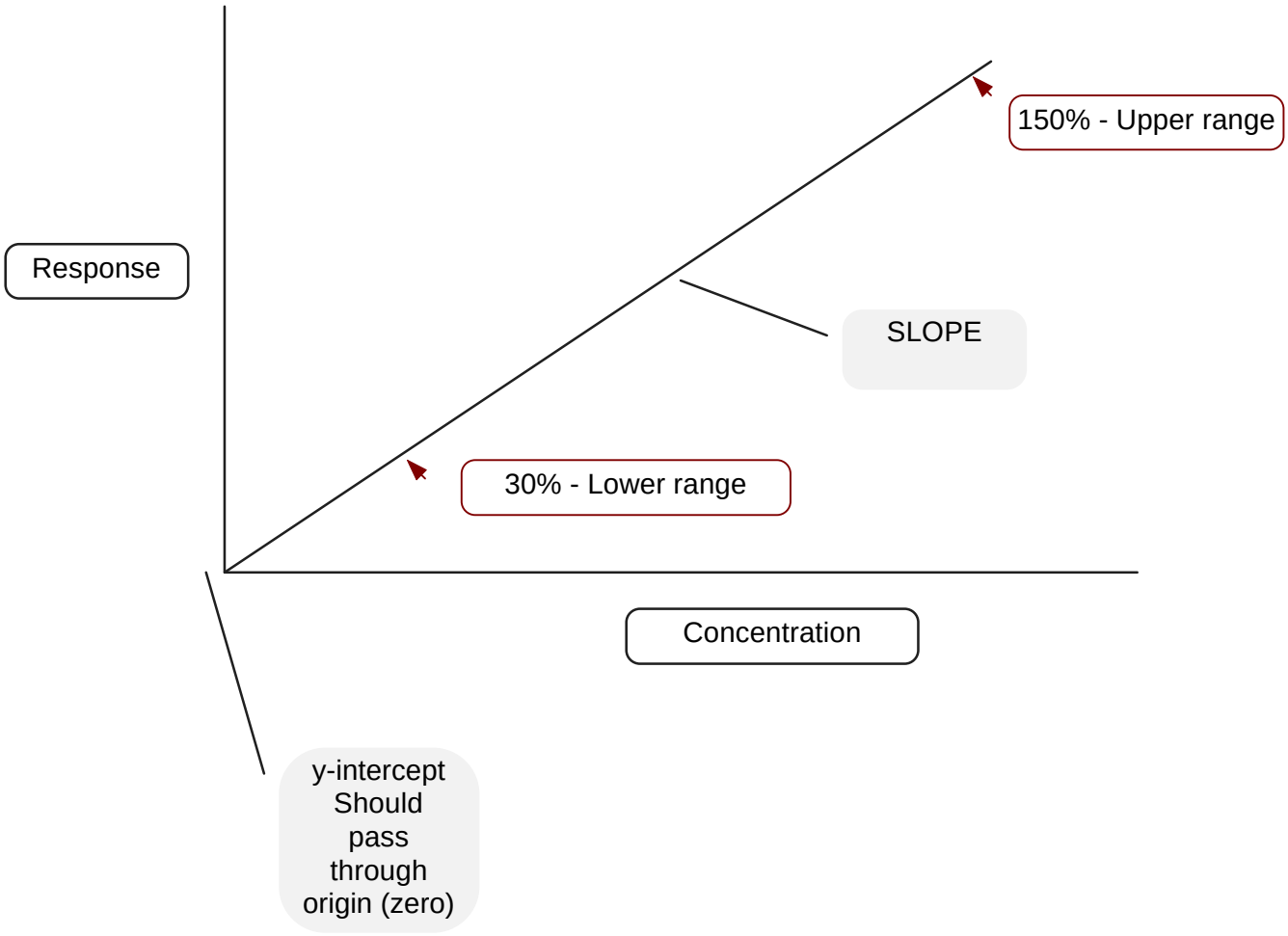
Standard solutions were prepared at 30%-150% of the working concentration for 250mg PARACETAMOL suspension.

Linear regression analysis demonstrated acceptability of the method for quantitative analysis over the concentration range required.

Sample	Conc. (µg)/mL)	Response
I	30%	
II	60%	
III	90%	
IV	120%	
V	150%	
Linear regression		**0.000**
Slope		**000.00**
Y-intercept		**00.00**

SUSPENSION PROTOCOL DISSOLUTION TEST VALIDATION.

LINEARITY GRAPH



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2. ACCURACY

The response of standard solutions at the working concentration for 250mg per mL is measured and the percent accuracy as determined from the linear regression is calculated .

Conc. mg/L	Response	Calculated Response	% Accuracy
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
0.000	00000	00000	00.0
Average			**00.0**
SD			**0.0**
RSD, %			**0.0**

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3.EXCIPIENT (PLACEBO) INTERFERENCE EVALUATION

The excipients interference was determined by sonicating (15 minutes) a solution of a paracetamol placebo suspension with an equal paracetamol concentration as the prepared paracetamol standard solution.

The difference between the response of this artificial solution (containing excipients) and the standard paracetamol solution as is (without excipients), is stated as **placebo effect**.

The placebo effect is calculated from the response of the ration of the excipients PLUS standard to the standard solution of the same concentration.

Criteria
The placebo effect value should be less than 1.0 - 1.2%

Calculation
(Example of a Placebo Effect Value):

$$\frac{\text{Std. + Placebo response}}{\text{Std. response}} \times 100 = \frac{51094}{50534} \times 100 = 101.1\%$$

IMPACT
The placebo effect value (1.1%) was found to be insignificant hence it will not be taken into account in the result calculation.

SUSPENSION PROTOCOL
DISSOLUTION TEST VALIDATION.

4.METHOD REPEATABILITY

The full method dissolution test as described in the method was carried out on the finished product

Method repeatability was expressed as relative standard deviation (RSD) of six independent analyses, each of them performed on six 5mL suspensions samples.

Sample LOT #									
Bath	Time (min)	% Dissolution						Average	RSD, %
1	15 60	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	0.0 0.0
2	15 60	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	0.0 0.0
3	15 60	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	0.0 0.0
4	15 60	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	0.0 0.0
5	15 60	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	0.0 0.0
6	15 60	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	00.0 00.0	0.0 0.0
Avg.	**15 60**								**00.0 00.0**
RSD,%	**15 60**								**0.0 0.0**

5.CONCLUSION

VALIDATION CONCLUSIONS

◊ Repeatability of the dissolution method was proven on batch Lot # 000 (250 mg).

◊ The results from the Intermediate Precision test do not differ significantly from those obtained in the method repeatability test .

◊ Linear regression analysis demonstrated acceptability of the method for quantitative determinations over the concentration range of 30 % - 150 %.

◊ The accuracy of the method was demonstrated in the range of 50 % to 100 % of label amount of the dissolved Active.

◊ Analysis of the non-active formulation components showed negligible interference with the quantitative determination of the active substance.

◊ The standard and stock sample solutions were shown to be stable for at least 24 hours at room temperature and in refrigerator. The stock standard solution was also shown to be stable for at least 30 days in refrigerator.

◊ The method was demonstrated to be robust over an acceptably wide working range of its operational parameters.

The method SI-226-02 for Dissolution testing by UV determination was demonstrated to be accurate and precise for performing the dissolution testing of said 'Generic' 250mg Tablets.

The method is demonstrated to be suitable for carrying out dissolution test of Paracetamol suspension .