4.0 SUMMARY AND CONCLUSION

4.1 Summary of Results

• For the log transformed Topiramate data, the ratio and 90% CI around least square mean ratio of the medicine product was within the BE limit of 80.00 % to 125.00% for pharmacokinetic parameters max. conc., AUC<sub>t</sub> & AUC<sub>∞</sub> under both fasting and fed study.

• No Pre-dose concentration was detected for SUB.s in period I and II of both fasting and fed study.

• The medicine was detected in plasma for 120.0 hours post dose. There were no sequence, period and formulation effect was observed in case of C<sub>max</sub>, AUC<sub>0-t</sub> and AUC<sub>0-∞</sub> under both fasting and fed study.

4.2 Results of Topiramate Fasting study

After oral admin.;

• C<sub>max</sub>: The mean C<sub>max</sub> obtained for Topiramate in reference and test product was 267.0194 nanogram/millil and 287.1423 nanogram/millil.

• AUC<sub>t</sub>: Mean area under the curve from zero to last quantifiable conc. for Topiramate in reference and test product was 9090.0111 (nanogram/millil).hr and 9798.9994 (nanogram/millil).hr respectively.

• AUC<sub>∞</sub>: Mean area under the curve from zero to infinity for Topiramate in reference and test product was 10902.0024 (nanogram/millil).hr and 11601.2022 (nanogram/millil).hr respectively.

• The mean T<sub>1/2</sub> for Topiramate was 44.1705 hours for reference product and 42.3103 hours for test product.

• The mean K<sub>el</sub> for Topiramate was 0.0170 hrs<sup>-1</sup> for reference product and 0.0173 hrs<sup>-1</sup> for test product.

• The T<sub>max</sub> was attained for Topiramate at 1.9271 hour for reference product and at 1.3958 hour for test product.

• The T/R ratio of Least square geometric mean and the 90% CI for Natural Logarithm converted data for max. conc for Topiramate was found 106.23 %
(96.04-117.5%) which is between the Bioequival. limit of 80.00% to 125.00% for the natural logarithm converted data.

- The T/R ratio of Least square geometric mean and the 90% CI for Natural Logarithm converted data for AUC\textsubscript{t} for Topiramate was found 106.46 % (98.99-114.5%) which is within the BE limit of 80.00% to 125.00% for the natural logarithm converted data.

- The T/R ratio of Least square geometric mean and the 90.00% CI for Natural Logarithm converted for AUC\textsubscript{∞} for Topiramate was found 105.64% (99.14-112.57%) between the Bioequival. limit of 80.00% to 125.00% for the natural logarithm converted data.

4.3 Results of Topiramate Fed study

After oral admin.,

- C\textsubscript{max}: The mean max. conc. obtained for Topiramate in R and T product was 208.1577 (nanogm/milliL).hr and 208.1340 (nanogm/milliL).hr respectively.

- AUC\textsubscript{t}: Mean area under the curve from zero to last measurable conc. for Topiramate in reference and test product was 8828.3018 (nanogm/milliL).hr and 9411.5571 (nanogm/milliL).hr respectively.

- AUC\textsubscript{∞}: Mean area under the curve from zero to infinite for Topiramate in reference and test product was 11497.9697 (nanogm/milliL).hr and 11692.0134 (nanogm/milliL).hr respectively.

- The mean T\textsubscript{1/2} for Topiramate was 53.4595 hours for reference product and 48.7267 hours for test product.

- The mean K\textsubscript{el} for Topiramate was 0.0150 hrs\textsuperscript{-1} for reference product and 0.0162 hrs\textsuperscript{-1} for test product.

- The T\textsubscript{max} was attained for Topiramate at 5.5625 hour for reference product and at 6.9167 hour for test product.

- The T/R ratio of Least square geometric mean and the 90.00% CI for Natural Logarithm converted for C\textsubscript{max} for Topiramate was found 99.22 % (92.64-106.27%) which is within BE limit of 80.00 to 125.00% for natural logarithm converted data.
• The T/R ratio of Least square geometric mean and the 90% CI for Natural Logarithm converted for AUCₜ for Topiramate was found 105.64% (99.59-112.06%) which is within BE limit of 80.00 to 125.00% for natural logarithm converted data.

• The T/R ratio of Least square geometric mean and the 90.00% CI for Natural Logarithm converted for AUCᵢ for Topiramate was found 101.32% (95.21-107.83%) which is within BE limit of 80.00 to 125.00% for natural logarithm converted data.

4.4 CONCLUSION
Outcome of the Topiramate fasted and fed study shows that the T product Topiramate Tab.s 25 mg of Alkem Laboratories Limited is equivalent to R product TOPAMAX® (Topiramate Tab.s 25 mg) of Ortho-McNeil Neurologics, Inc., USA with respect to the rate and extent of absorption under fasted and fed condition. Both the study formulations were found safe and well tolerated by study volunteers in both the study. No AE and SAE were observed during the study.