



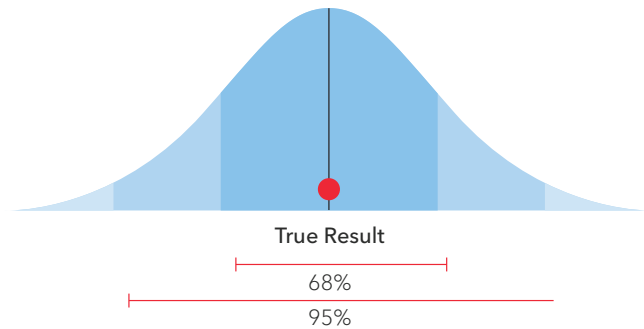
Understanding the variability in test results



Uncertainty of measurement

If the same sample is tested many times by a laboratory, there will be some variation in results.

- The average of all the tests is our best estimate of the 'true' result.
- 68% of all results will fall within 1 standard deviation of the average.
- 95% of all results will fall within 2 standard deviations of the average.



Normal variation for some common tests (range of 2 standard deviations from the true result)

Low Variability Plus or minus ~10% (or less)	Moderate Variability Plus or minus ~15%	Higher Variability Plus or minus ~20% (or more)
DHA and MG 3-PLA Mānuka Pollen DNA C4 Sugar – AOAC	HMF Tutin	2'-MAP, 2-MBA, and 4-HPLA C4 Sugar – Screen

How does this affect decision your making?

Two results that differ by less than the normal variation in the test can be regarded as being 'the same.'

If comparing a test result to an important threshold, take test variation into account when deciding if it is a pass or a fail.

