

ASCORBIC ACID STANDARD

ST08001

INTRODUCTION

Ascorbic acid or Vitamin C is the strongest natural water-soluble antioxidant, commonly used to measure antioxidant capacity. It is present in biological samples, like plasma, and food samples as a natural component of fruit and vegetables or as an additive.

RECOMMENDED USES

To compare the e-BQC results (μC) to classical antioxidant capacity units of Vitamin C Antioxidant Capacity Equivalents (CEAC). It could be used for both biological and food samples.

COMPATIBLE BUFFERS

Product	Description	Reference
General Buffer	0.1 M PBS pH 7	ST08007-125/500
Bio-Buffer	150 mM Sterile PBS pH 7.4	ST08006-125/500
Nutrition Buffer	0.1 M PBS pH 5.8	ST08005-125/500

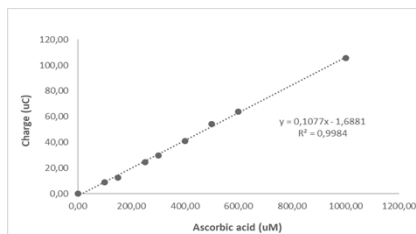
STANDARD CALIBRATION

Add 1 ml of the selected diluent buffer to the vial (10 mM). Transfer the 1 ml from the vial and add 9 ml of diluent (1 mM). Prepare the calibration curves in 1.5 ml tubes as shown below:

	Standard (μl)	Diluent (μl)	CEAC (μM)
1	0	1000	0
2	50	950	50
3	100	900	100
4	200	800	200
5	400	600	400
6	600	400	600
7	800	200	800
8	1000	0	1000

*This is just a recommendation in case the expected antioxidant capacity values of the

sample were unknown. You are free to adapt the concentrations to be tested to your necessities.



e-BQC SPECIFICITY

Ascorbic acid is more predominantly present in Q1 where it presents lower detection limits and less interferences. It is recommended to use Q1 for calibrations at low concentrations of ascorbic acid.

	Q1	Q2	Qt
Sensitivity	0.07 $\mu\text{C}/\mu\text{M}$	0.04 $\mu\text{C}/\mu\text{M}$	0.10 $\mu\text{C}/\mu\text{M}$
LOD	2 μM	10 μM	12 μM
LOQ	3 μM	16 μM	19 μM
LOB	1.7 μM	9.2 μM	10.9 μM
RSD	8 %	5 %	5 %

COMPARISON WITH TAC ASSAY KITS

If a comparison of the e-BQC results with classical antioxidant capacity assays is desired, the following BQC kits that are compatible with an ascorbic acid standard could be used:

Product	Reference
ABTS	KF01002
FRAP	KF01003
FAST FRAP	KF01006
ORAC	KF01004

