

Free amino acid profile

EXAMPLE REPORT · ILLUSTRATIVE VALUES

CLIENT	Example Biosciences, Inc.	SAMPLE ID	OCW-26-0042 (client ID FB-17-48h)
MATRIX	Spent medium, fed-batch, 48 h, clarified	RECEIVED	2026-10-08, intact
PREPARATION	Clarified, deproteinized, diluted 1:10, AQC-derivatized	ANALYSIS	RP-HPLC, C18, UV 260 nm; 2026-10-10, run R-26-031

Results

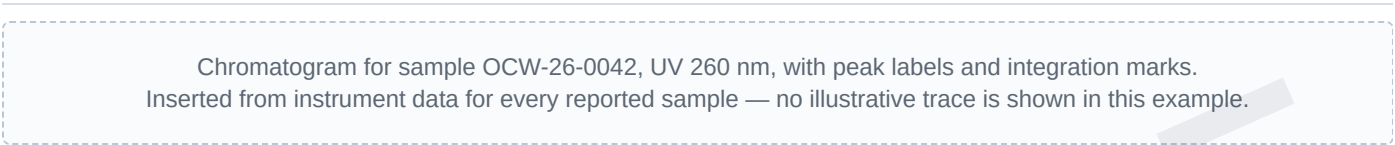
ANALYTE	MM	MG/L	RT (MIN)	LOQ (MM)	FLAG
Aspartate	142	18.9	3.41	10	
Serine	318	33.4	3.62	10	
Glutamate	613	90.2	3.98	10	
Glycine	455	34.2	4.20	10	
Histidine	96	14.9	4.41	10	
Glutamine	1 842	269.2	4.61	10	
Asparagine	224	29.6	4.92	10	
Ammonia	2 260	38.5	5.30	10	
Arginine	388	67.6	5.63	10	
Threonine	265	31.6	5.91	10	
Alanine	1 120	99.8	6.32	10	
Proline	540	62.2	7.08	10	
Tyrosine	88	15.9	7.61	10	
Lysine	291	42.5	8.12	10	
Methionine	71	10.6	8.58	10	
Valine	402	47.1	8.91	10	
Isoleucine	214	28.1	9.52	10	
Leucine	377	49.5	9.87	10	
Phenylalanine	133	22.0	10.41	10	
Tryptophan	24	4.9	10.93	10	

Concentrations in the sample as received, corrected for dilution. mg/L computed from µM using free amino acid molecular weights. Values below LOQ are flagged and not extrapolated. Cysteine/cystine not determined (not requested). QC for this run: page 2.

Run QC summary

98 % Internal standard recovery, this sample (α-aminobutyric acid)	Pass QC standard — known amino acid mixture analyzed with this run; all analytes within acceptance	Pass Sensitivity check — detector response to the standard within range	Pass Reagent blank — no analyte above the quantitation limit
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Chromatogram



QC standard recovery, this run

ANALYTE	NOMINAL (MM)	FOUND (MM)	RECOVERY
Glutamine	250	246	98 %
Glutamate	250	253	101 %
Leucine	250	247	99 %
Lysine	250	241	96 %
Ammonia	500	512	102 %
(15 further analytes)	250	—	95 – 104 %

Quality-control standard of known concentration derivatized and analyzed alongside the samples; recovery against the method calibration confirms the calibration holds for this run. Internal standard (α-aminobutyric acid) added to every sample to monitor derivatization and injection.

Method summary — AAA-01

Free amino acids and ammonia are derivatized with 6-aminoquinolyl-N-hydroxysuccinimidyl carbamate (AQC) in borate buffer (55 °C, 10 min) and separated by reversed-phase HPLC on a C18 column with gradient elution and detection at 260 nm (Cohen & Michaud, *Anal. Biochem.* 1993, 211, 279–287). Samples are clarified and deproteinized before derivatization; dilution is chosen so that analytes fall within the calibrated range. An internal standard is added to every sample, and a quality-control standard of known concentration and a reagent blank are analyzed with every run.

Notes for this sample

At 48 h, ammonia (2.3 mM), glutamine (1.8 mM) and alanine (1.1 mM) are the largest values in this sample. A single time point cannot show whether each is rising or falling; compare with earlier samples from the same run, and with the fresh medium, before drawing conclusions about the feed.