



PrymaLab

PRYMALAB ANALYTICAL · IN-HOUSE LABORATORY

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CERTIFICATE NO.
PL-26-00003

VERIFICATION KEY
DWUV94CU

Scan or enter both at
prymalab.net/testing/verify

CERTIFICATE OF ANALYSIS · LOT RELEASE

ACE-0311 mg

Lot PL-2609-003 · Lyophilized powder · Label claim 1 mg/vial

TESTED IN-HOUSE BY PRYMALAB

In-house analytical result,
not an independent third-party test

LOT / BATCH NUMBER PL-2609-003	DATE MADE 2026-09-18	DATE OF ANALYSIS 2026-09-19	DATE ISSUED 2026-10-03
RETEST / EXPIRY 2028-09-18	UNITS IN LOT / SAMPLED 250 / 2	STORAGE -20 °C, desiccated, dark; avoid freeze-thaw after reconstitution	CERTIFICATE TYPE Lot COA, 2 pages

COMPOUND ACE-031 ActRIIB-Fc decoy receptor: soluble activin receptor type IIB extracellular domain fused to human IgG1 Fc STRUCTURE Recombinant human ActRIIB extracellular domain fused to human IgG1 Fc (hinge-CH2-CH3), CHO-expressed; covalent homodimer through the Fc hinge disulfides; N-glycosylated. Binds GDF-8/GDF-11, activin A and BMP-9/10.	CAS NUMBER Not assigned	MOLECULAR FORMULA Not applicable (recombinant glycoprotein)	THEORETICAL MASS (AVG.) Glycoform-dependent; unreduced Fc-fusion homodimer about 72-75 kDa
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PURITY · RP-HPLC, AREA %

98.1%

Specification ≥ 95.0% (SDS-PAGE corroboration) •
main peak at 7.38 min

IDENTITY · OBSERVED MASS

72,529 Da

Deconvoluted glycoform centroid • spec ≤ 75,000
Da (unreduced dimer)

OVERALL CONCLUSION

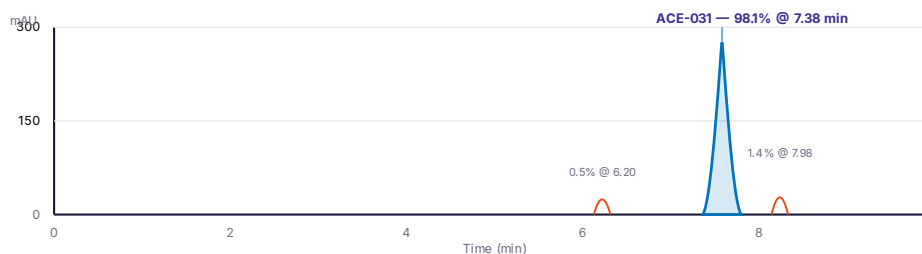
PASS

Meets every specification for the tests performed

TEST	METHOD	SPECIFICATION	RESULT	CONCLUSION
Appearance	Visual inspection	White to off-white lyophilized powder or cake	White lyophilized powder	PASS
Identity	LC-MS, ESI positive	Deconvoluted mass within glycoform envelope	72,529 Da (dimer); 36,268 Da on reduction	PASS
Purity	RP-HPLC, UV 214 nm, area%	≥ 95.0%	98.1%	PASS
Largest impurity	RP-HPLC, area%	≤ 5.0%	1.4% at 6.86 min	PASS
Water content	Karl Fischer	5.0%	2.1%	PASS
Bacterial endotoxin	LAL, kinetic	≤ 5.0 EU/mg	0.31 EU/mg	PASS
Sterility / bioburden	USP <71>, membrane filtration	No growth after 14 days	No growth; conforms	PASS

1 HPLC CHROMATOGRAM

Data file: ACE_PL-2609-003_20260919_01 · Column C18 150 × 4.6 mm · UV 214 nm



Baseline uncropped; main peak and impurities labeled with retention times. Peak table on page 2.

**2 HPLC METHOD · ACE_PL-2609-003_20260919_01**

INSTRUMENT

Waters Alliance e2695, SN E2695B742

DETECTOR

Waters 2998 PDA

COLUMN PART / SERIAL

186003326 / USHX18211

COLUMN TEMPERATURE

30 °C

SAMPLE DILUENT

Water, 0.1% TFA

REFERENCE STANDARD

In-house ACE-031 reference, lot PL-RS-ACE-01, RT 7.36 min (SDS-PAGE ref: NSA1, lot APP2012MA6)

DATA SYSTEM

Empower 3, Build 3471

COLUMN

C18, 150 × 4.6 mm, 3.5 µm

FLOW RATE

1.0 mL/min

RUN TIME

10 min

BLANK INJECTED

Yes

3 GRADIENT PROGRAM

TIME (MIN)	% A	% B
0.0	95	5
3.0	95	7.0
7.0	55	45
8.0	20	80
9.0	20	80
10.0	95	5

4 PEAK TABLE

PEAK	RT (MIN)	AREA	AREA %
1	6.20	21,500	0.5
2	7.38	4,217,300	98.1
3	7.98	61,200	1.4
Total		4,300,000	100.0

Threshold 0.05% area · Blank subtracted: Y · Purity = main peak area ÷ total integrated area × 100, to two decimals; main peak shaded.

5 IDENTITY BY MASS SPECTROMETRY

INSTRUMENT

SQD, ESI positive

DECONVOLUTED MASS

72,529 Da (centroid glycoform)

DATA FILE

ACE_PL-2609-003_MS_20260919_01

IONIZATION / MODE

ESI, positive

THEORETICAL MASS

~72,000 Da (glycoform envelope)

ACCEPTANCE

Within glycoform envelope

OBSERVED M/Z (CHARGE)

2401.9 (30+ [M+30H]) · 2183.5 (33+ [M+33H])

DIFFERENCE

2.6 kDa CHO glycoform spread

6 ADDITIONAL TESTS

TEST	PERFORMED BY	DATE	REPORT / FILE
Water content	PrymaLab	2026-09-20	RPT-KF-PL-2609-003
Endotoxin	PrymaLab	2026-09-21	RPT-ET-PL-2609-003

A test with no row here was not performed on this lot. Outside-laboratory reports, when used, are attached and named below.

7 REVIEW AND APPROVAL**D. Reynolds**

Analyst · performed the testing

Date: 2026-09-19

S. Calloway

Reviewer · checked against raw data

Date: 2026-10-02

M. Phelps

Lab Director · approved for release

Date: 2026-10-03

Raw data retained at: Empower 3 (Build 3471), project PL-2609, archive PL-ARC-2026; 7 years. Outside laboratory reports attached: None

This certificate applies only to the lot named above and describes the units sampled from it; it is not a guarantee for any other lot. Results were obtained by PrymaLab LLC's own laboratory (PrymaLab Analytical) and are not an independent third-party test unless an outside report is attached. Reference values (CAS, formula, theoretical mass, sequence) are literature values for the named compound. Authenticity: scan the QR code or enter certificate number PL-26-00003 and key DWUV94CU at prymalab.net/testing/verify; any copy that does not match the record shown there is not a PrymaLab certificate. PrymaLab LLC products are supplied for laboratory research use only and not for human or veterinary use.