



The Power to Question

CERTIFICATE OF ANALYSIS

Catalog Number: sc-476591
Lot Number: SAMPLE
Product Name: Z-L-pyrroglutamic acid
CAS Number: 32159-21-0
Molecular Formula: $C_{13}H_{13}NO_5$
Molecular Weight: 263.2

Test	Result
Appearance	White powder
Identification (1H-NMR)	Consistent with standard
Identification (Infrared Spectrum)	Consistent with standard
Identification (Mass Spectrometry)	Consistent with standard
Purity (HPLC)	99.32%
Melting Point	140.3 - 141.8 °C
Solubility	0.15 g/mL (DMF clear solution)
Optical Rotation	-32.5° (c = 1 in MeOH)
Loss on Drying	0.11% (60 °C, 2h)
Water Content (KF)	0.08%

Satisfaction Guarantee: We appreciate your business and are committed to providing the highest level of quality and service. Any product that does not meet the performance standards indicated in our product literature will be replaced at no charge. Our policy is valid for one year from the date of your purchase.

Santa Cruz Biotechnology, Inc. 800.457.3801 831.457.3800 fax 831.457.3801 Europe +00800 4573 8000 49 62221 4503 0 www.scbt.com