



The Power to Question

# CERTIFICATE OF ANALYSIS

Catalog Number: sc-364685  
Lot Number: SAMPLE  
Product Name: Tiotropium Bromide Monohydrate  
CAS Number: 139404-48-1  
Molecular Formula:  $C_{19}H_{22}BrNO_4S_2 \cdot H_2O$   
Molecular Weight: 490.43

Test	Specification	Result
Appearance	White or almost white powder	Complies
Assay	$\geq 99\%$	99.8%
Identification (Infrared Spectrum)	Conforms to structure	Complies
Identification (UV)	Conforms to structure	Complies
Residue on Ignition	$\leq 0.1\%$	Complies
Solubility	Sparingly soluble in methanol	Complies
Specific Rotation	$-0.5^{\circ} \sim +0.5^{\circ}$	$0.013^{\circ}$
Heavy Metals	$\leq 20$ ppm	Complies
Related Substances	Single impurity $\leq 0.2\%$ Total impurities $\leq 1.0\%$	0.09% 0.19%
Water Content	3.0-5.0%	3.5%

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](http://www.scbt.com)