

**CERTIFICATE OF ANALYSIS**

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by Intertek. Certificate Number. 2317548

Catalogue Number 21375  
Lot Number A0394409  
Description Glycyrrhizic acid monoammonium salt,98+%  
CAS Number 53956-04-0  
Quality Test/Release Date 25/Aug/2025  
Suggested retest date 25/Aug/2028  
Country of Origin CHINA  
Declaration of Origin plant  
BSE/TSE The product is extracted from Glycyrrhiza glabra

Result Name	Units	Specifications	Test Value
Appearance (Color)		White to light yellow	Light yellow
Appearance (Form)		Powder	Powder
Infrared spectrum		Authentic	Authentic
Titration with HClO4	%	98.0 to 102.0 (on anhydrous substance)	99.9 (on anhydrous substance)
Water	%	=<7.5 (K.F.)	5.2 (K.F.)
Heavy metals	ppm	=<20	=<20
Sulfated ash	%	=<0.2	0.05
Specific optical rotation		+49.0° to +54.0° (20°C, 589 nm) (c=1, EtOH 50% v/v)	+53.2° (20°C, 589 nm) (c=1, EtOH 50% v/v)
Specific optical rotation		on anhydrous substance	on anhydrous substance
Related substances	%	=<10.0 18-alpha-glycyrrhizic acid (HPLC)	8.9 18-alpha-glycyrrhizic acid (HPLC)



Geert Torfs  
Supervisor, QC

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.