Thermo Fisher Scientific
Ward Hill, MA-Sites
30 Bond Street
Ward Hill
MA 01835

220 Neck Road
Ward Hill
MA 01835

38 Shelley Road
Ward Hill
MA 01835

CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by TUV SUD America Inc.
Certificate Number. 951001163

Catalogue Number	J67233
Lot Number	N20M047
Description	Tris(hydroxymethyl)aminomethane hydrochloride, Molecular Biology Grade, 99+%
CAS Number	1185-53-1
Quality Test/Release Date	23/Feb/2026
Suggested retest date	23/Feb/2029
Country of Origin	United States

Result Name	Units	Specifications	Test Value
Assay	%	≥99.0%	=>99.0
DNase		None detected	None detected
Residual water	%	≤0.5%	=<0.5
Impurity content	ppm	Calcium, Ca: ≤5ppm	=<5
Impurity content	ppm	Copper, Cu: ≤1ppm	=<1
Impurity content	ppm	Iron, Fe: ≤5ppm	=<5
Impurity content	ppm	Lead, Pb: ≤1ppm	=<1
Impurity content	ppm	Magnesium, Mg: ≤1ppm	=<1
Impurity content	ppm	Manganese, Mn: ≤1ppm	=<1
Impurity content	ppm	Zinc, Zn: ≤1ppm	=<1
Melting point	°C	150-152°C	150-152
pH		4.2-5.0 (0.1M aq. soln., 25°C)	4.2-5.0
Protease activity		None detected	None detected
RNase		None detected	None detected



Derek Roy
Quality Manager, LCD

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.