

Creative Diagnostics Introduces Advanced tRNA Modification Detection Solutions to Support Genetic Research

Creative Diagnostics has announced its highly validated antibodies for tRNA Modification Detection.

NEW YORK, NY, UNITED STATES, April 28, 2025 /EINPresswire.com/ -- [Creative Diagnostics](#), a leading manufacturer and supplier of antibodies, antigens and assay kits, has announced its comprehensive portfolio of highly validated antibodies for [tRNA Modification Detection](#). These antibody-based analysis solutions provide reliable and sensitive detection methods for the scientific community to identify specific tRNA modifications.

Transfer ribonucleic acid (tRNA) is present in tens of millions of transcripts in human cells and is the most abundant of all cellular RNAs. tRNAs are the most extensively modified RNAs, with an average of 13 modifications per molecule. tRNAs are well known for their primary function as adaptors of amino acids and the genetic code in protein synthesis. tRNA abundance, modification, and aminoacylation (charge) levels contribute to mRNA decoding in a manner that reflects the cell type and its environment; however, how these factors work together to maximize translation efficiency remains to be understood. tRNAs also interact with many proteins that are not involved in translation, which may orchestrate translation activity and other processes in the cell.

Traditional techniques for tRNA modification analysis, such as liquid chromatography-mass spectrometry (LC-MS) and next-generation sequencing (NGS), are often challenged by the complexity of sample handling and preservation of structural context. To address these limitations, Creative Diagnostics offers a promising alternative through its wide range of antibody solutions.

Creative Diagnostics now provides scientists with various tools for accurate quantification and identification of tRNA modifications within complex biological samples, such as the Anti-2'-O-methylcytidine/Cm monoclonal antibody (Catalog # DMABB-JX352), Anti-5-methylcytidine (m5C) monoclonal antibody (Catalog # DMABC-JX060), and Anti-M6A Monoclonal antibody, clone 3I7 (Catalog # CABT-CS610). They are suitable for Dot, ELISA, and IF. In addition, this newly expanded antibody portfolio can support the detection of common modifications, including Methylation, Thiolation, Pseudouridylation, Dihydrouridylation, and Acetylation.

For example, the Rabbit Anti-M6A Monoclonal antibody, clone 3I7 (CABT-CS610) can be applied in

ELISA, DB, and IF. N6-methyladenosine (m6A) is the most common and abundant modification in eukaryotic RNA molecules. m6A modification is catalyzed by the methyltransferase complex METTL3 and removed by the recently discovered m6A RNA demethylases FTO and ALKBH5, which catalyze m6A demethylation in an α -ketoglutarate (α -KG)- and Fe²⁺-dependent manner. Studies have shown that METTL3, FTO and ALKBH5 play critical roles in many biological processes ranging from development and metabolism to reproduction. Additionally, m6A accounts for more than 80% of all RNA base methylation and exists in different species. It is predominantly distributed in mRNAs, but also occurs in non-coding RNAs, such as tRNAs, rRNAs and snRNAs.

Creative Diagnostics offers a comprehensive list of quality antibodies for tRNA modification detection. Researchers interested in learning more about Creative Diagnostics' antibodies and other research tools are encouraged to visit <https://www.creative-diagnostics.com/trna-modifications-detection.htm>.

About Creative Diagnostics

Creative Diagnostics is a leading manufacturer and supplier of antibodies, viral antigens, innovative diagnostic components, and critical assay reagents. In addition to providing contract R&D and biologic manufacturing services for diagnostic manufacturers along with GMP biologics manufacturing for the biopharmaceutical market, the company aims to continue to act as a trusted source for all researchers' assay development and manufacturing needs.

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Creative Diagnostics

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