



Technical Data Sheet: ThawReady™ THP-1 Cells

ATCC [®] Number	TIB-202-AR™
Organism	Homo sapiens
Tissue/Disease Source	Peripheral blood/Acute monocytic leukemia
Product Description	ThawReady [™] THP-1 (ATCC [®] TIB-202-AR [™]) is a "thaw and go" format of the THP-1 cell line (ATCC [®] TIB-202 [™]). ThawReady [™] THP-1 cells are developed using a proprietary ATCC animal by-product (ABP)-free freezing medium and intended for thaw and immediate use. ThawReady [™] THP-1 cells exhibit high post-thaw viability and are manufactured for low intra-lot and inter-lot variation.
Application	Monocyte and macrophage biology, inflammation biology research and related drug discovery
Product Technical Specifications	This product is guaranteed to have > 6 million viable cells on delivery. Customer results will vary based on product handling, shipment, and/or equipment. For full product technical specifications refer to your lot number and download the CoA from the ATCC website.

Post-Thaw Viability Following Cryogenic Storage in Vapor Phase of Liquid Nitrogen



Figure 1. Post-Thaw Viability of ThawReady™THP-1 Cells (A) ThawReady™ THP-1 cells from three R&D batches were thawed, and post-thaw viability was measured (Vi-Cell BLU). (B) ThawReady™ THP-1 cells from three full scale manufacturing process validation lots were thawed, and post-thaw viability was measured (Vi-Cell BLU). Viability results will vary based on product handling, shipment, and/or equipment.

Post-Thaw Cell Number Following Cryogenic Storage in Vapor Phase of Liquid Nitrogen



Figure 2. Post-Thaw Viable Cell Number of ThawReady[™] THP-1 Cells (A) ThawReady[™] THP-1 cells from three R&D batches were thawed, and post-thaw viable cells were measured (Vi-Cell BLU). (B) ThawReady[™] THP-1 cells from three full scale manufacturing process validation lots were thawed, and post-thaw viable cells were measured (Vi-Cell BLU). Results will vary based on product handling, shipment, and/or equipment.

Cell Morphology During Macrophage Differentiation



Figure 3. Changes in Cell Morphology During PMA-Induced Macrophage Differentiation.

Parental THP-1 (A) and freshly thawed ThawReady™ THP1 cells (B) were plated and treated with PMA for 72 hours for differentiation into macrophage-like cells. Cell morphology was observed under the microscope and cell images were captured at 0, 24, 48, and 72 hours after PMA stimulation, using a digital camera.

mRNA Expression Quantification by QPCR



Figure 4. Increased mRNA Expression of CD14, CD36 in PMA Induced Macrophage-like Cells. Parental THP-1 and freshly thawed ThawReady™ THP1 cells were plated and treated with PMA for 72 hours to differentiate into macrophage-like cells. qPCR was performed to quantify CD14 (A) and CD36 (B) mRNA expression. Upon PMA induction, mRNA expression of CD14 and CD36 in macrophage-like cells derived from both parental THP-1 cells and ThawReady™ THP-1 cells were increased compared to the undifferentiated controls.



Flow Cytometry Analysis of Surface Marker Expression

Figure 5. CD14 Surface Marker Expression Analysis by Flow Cytometry.

Parental THP-1 and freshly thawed ThawReady[™] THP1 cells were plated and treated with PMA for 72 hours for differentiation into macrophage-like cells. Cell surface expression of CD14 on undifferentiated parental THP-1 cells (A), undifferentiated ThawReady[™] THP-1 cells (C), differentiated macrophage-like cells derived from parental THP-1 cells (B), and ThawReady[™] THP-1 cells (D) were analyzed by Flow Cytometry (CytoFLEX, Beckman Coulter).