

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse UTF1 in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant human UTF1 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse UTF1 Lys50-Ser171 Accession # Q6J1H4
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

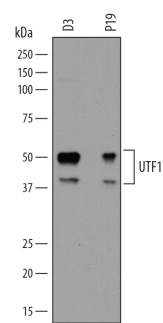
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below
Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
Immunocytochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

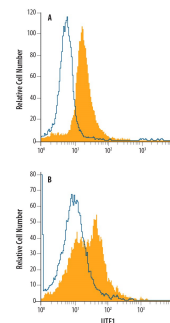
DATA

Western Blot



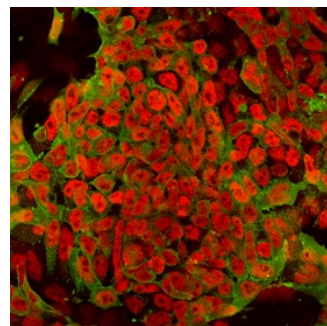
Detection of Mouse UTF1 by Western Blot. Western blot shows lysates of D3 mouse embryonic stem cell line and P19 mouse embryonic carcinoma cell line. PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Mouse UTF1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7819) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). Specific bands were detected for UTF1 at approximately 50 and 40 kDa (as indicated). This experiment was conducted under reducing conditions and using *Immunoblot Buffer Group 1*.

Flow Cytometry



Detection of UTF1 in D3 Mouse Cell Line by Flow Cytometry. D3 mouse embryonic stem cell line untreated (panel A) or treated with 10 mM retinoic acid for 3 days (panel B) was stained with Sheep Anti-Mouse UTF1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7819, filled histogram) or control antibody (Catalog # 5-001-A, open histogram), followed by Phycoerythrin-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0126). UTF1 expression is decreased with retinoic acid treatment, as indicated in panel B. To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

Immunocytochemistry



UTF1 in D3 Mouse Stem Cells. UTF1 was detected in immersion fixed D3 mouse embryonic stem cell line using Sheep Anti-Mouse UTF1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7819) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the Northern-Lights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010). Cells were double-stained using Mouse Anti-Human/Mouse SSEA-1 Monoclonal Antibody (Catalog # MAB2155) and the Northern-Lights™ 493-conjugated Anti-Mouse IgG Secondary Antibody (green; Catalog # NL009). Specific staining of UTF1 was localized to nuclei. View our protocol for *Fluorescent ICC Staining of Cells on Coverslips*.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none">● 12 months from date of receipt, -20 to -70 °C as supplied.● 1 month, 2 to 8 °C under sterile conditions after reconstitution.● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

UTF1 (Undifferentiated embryonic cell Transcription Factor 1) is a 47-49 kDa member of Leu-zipper family of proteins. It is expressed in the early embryonic inner cell mass and primitive ectoderm, and disappears following the formation of the primitive streak. In this regard, UTF1 has been shown to be chromatin-associated and to participate in the proper differentiation of embryonic stem cells. It also is expressed in basal keratinocytes, and hair follicle matrix cells. UTF1 acts as a transcriptional coactivator of ATF2 (Activating Transcription factor 2), a bZIP family protein that interacts with CRE in gene promoters. Mouse UTF1 is 399 amino acids (aa) in length. It contains two conserved domains (aa 52-167 and aa 269-332), the latter which is key to ATS2 activation. There is one alternative start site at Met43 that generates a 39 kDa isoform. Over aa 18-423, mouse UTF1 shares 81% and 95% aa sequence identity with human and rat UTF1, respectively.