

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Twist-1 in direct ELISAs. In direct ELISAs, less than 16% cross-reactivity with recombinant human Twist-2 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Twist-1 Met1-His202 Accession # Q15672
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

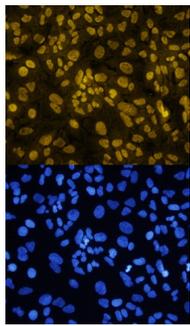
APPLICATIONS

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

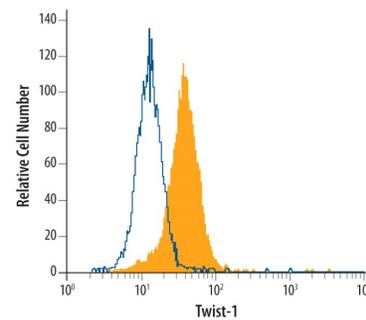
DATA

Immunocytochemistry



Twist-1 in A549 Human Cell Line. Twist-1 was detected in immersion fixed A549 human lung carcinoma cell line treated with 10ng/mL of Recombinant Human TGF beta 1 (Catalog # 240-B) for 48 hours using Sheep Anti-Human Twist-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6230) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (yellow, upper panel; Catalog # NL010) and counterstained with DAPI (blue, lower panel). Specific staining was localized to nuclei. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Intracellular Staining by Flow Cytometry



Detection of Twist-1 in HeLa Human Cell Line by Flow Cytometry. HeLa human cervical epithelial carcinoma cell line was stained with Sheep Anti-Human Twist-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6230, filled histogram) or control antibody (Catalog # 5-001-A, open histogram), followed by NorthernLights™ 493-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # NL012). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
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

Twist-1 (Twist-related protein 1; also H-Twist and bHLHa38) is a 25-27 kDa class B member of the bHLH transcription factor family of proteins. It is widely expressed in embryo, and select adult cells such as white adipocytes. In fat, Twist-1 induces fatty acid oxidation via PGC-1α and CPT-1, and promotes MCP-1 and TNF-α secretion by adipocytes. In epithelium, Twist-1 dysregulation represses E-Cadherin and induces N-Cadherin expression, resulting in an epithelial-to-mesenchymal transition that can lead to cancer. Human Twist-1 is 202 amino acids (aa) in length. It contains a bHLH domain (aa 109-164) with an embedded DNA-binding motif. Twist-1 forms homodimers, and heterodimerizes with TCF3, HAND 1 and HAND 2. Two distinct mutations exist that may impact its dimerization pattern. There is one seven aa insertion after Ile135, and a second seven aa insertion after Pro139. A third unrelated variant shows a four Gly insert after Gly92. Full-length human Twist-1 shares 98% aa identity with mouse Twist-1.