

# GILZ (D-2): sc-133216

## BACKGROUND

Glucocorticoid-induced leucine zipper (GILZ) is a leucine zipper protein expressed in normal lymphocytes from thymus, spleen and lymph nodes. It is absent in nonlymphoid tissues, including brain, liver and kidney. GILZ mediates the immunosuppressive effects of glucocorticoid hormones; its expression is induced in T cells by dexamethasone. GILZ protects T cells from an anti-CD3 antibody-induced apoptosis by inhibiting Fas and Fas ligand expression. It interferes with Egr-2, Egr-3, NFAT/AP-1-inducible transcription factors and AP-1. The interaction of GILZ with c-Fos and c-Jun inhibits the binding of active AP-1 to its DNA consensus site *in vitro*. GILZ also binds NF $\kappa$ B subunits and inhibits the NF $\kappa$ B nuclear translocation. It inhibits T cell receptor-induced interleukin-2/interleukin-2 receptor expression. The binding of GILZ to Raf-1 prevents Raf-MEK-ERK activation in the MAPK pathway. GILZ is expressed by normal macrophages in nonlymphoid tissues and by tumor-infiltrating macrophages in Burkitt's lymphomas. The gene encoding human GILZ maps to chromosome Xq22.3.

## REFERENCES

1. D'Adamio, F., et al. 1997. A new dexamethasone-induced gene of the leucine zipper family protects T lymphocytes from TCR/CD3-activated cell death. *Immunity* 7: 803-812.
2. Mittelstadt, P.R. and Ashwell, J.D. 2001. Inhibition of AP-1 by the glucocorticoid-inducible protein GILZ. *J. Biol. Chem.* 276: 29603-29610.
3. Ayroldi, E., et al. 2001. Modulation of T-cell activation by the glucocorticoid-induced leucine zipper factor via inhibition of nuclear factor  $\kappa$ B. *Blood* 98: 743-753.
4. Cannarile, L., et al. 2001. Cloning, chromosomal assignment and tissue distribution of human GILZ, a glucocorticoid hormone-induced gene. *Cell Death Differ.* 8: 201-203.
5. Ayroldi, E., et al. 2002. Glucocorticoid-induced leucine zipper inhibits the Raf-extracellular signal-regulated kinase pathway by binding to Raf-1. *Mol. Cell. Biol.* 22: 7929-7941.
6. Berrebi, D., et al. 2003. Synthesis of glucocorticoid-induced leucine zipper (GILZ) by macrophages: an anti-inflammatory and immunosuppressive mechanism shared by glucocorticoids and IL-10. *Blood* 101: 729-738.

## SOURCE

GILZ (D-2) is a mouse monoclonal antibody raised against amino acids 1-134 representing full length GILZ of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

GILZ (D-2) is recommended for detection of GILZ and all other TSC22 family members of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

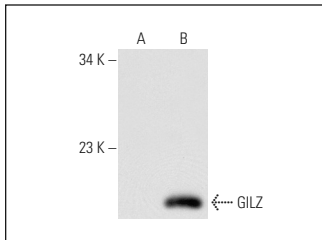
Molecular Weight of GILZ: 18 kDa.

Positive Controls: GILZ (h2): 293T Lysate: sc-111443.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



GILZ (D-2): sc-133216. Western blot analysis of GILZ expression in non-transfected: sc-117752 (A) and human GILZ transfected: sc-111443 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Lukic, I., et al. 2015. Accumulation of cytoplasmic glucocorticoid receptor is related to elevation of FKBP5 in lymphocytes of depressed patients. *J. Mol. Neurosci.* 55: 951-958.
2. Serra, M.F., et al. 2018. Repeated allergen exposure in A/J mice causes steroid-insensitive asthma via a defect in glucocorticoid receptor bioavailability. *J. Immunol.* 201: 851-860.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.