GR (G-5): sc-393232

BACKGROUND

The glucocorticoid receptor (GR) is a ubiquitously expressed transcription factor that mediates the effects of glucocorticoids. The most abundant iso-form is GR α. GR induces or represses the expression of genes in response to glucocorticoids, mediating such processes as apoptosis, cell growth and differentiation. A significant class of genes suppressed by GR is controlled by the transcription factor AP-1. GR has also been shown to be the limiting factor in the induction of gene expression by glucocorticoids. It has been revealed that GR forms a complex with HSP 90, rendering the non-ligand bound receptor transcriptionally inactive. More importantly, mutant GRs lacking the signaling domain remain constitutively active.

CHROMOSOMAL LOCATION

Genetic locus: NR3C1 (human) mapping to 5q31.3; Nr3c1 (mouse) mapping to 18 B3.

SOURCE

GR (G-5) is a mouse monoclonal antibody raised against amino acids 121-420 of GR of human origin.

PRODUCT

Each vial contains 200 µg IgG$_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393232 X, 200 µg/0.1 ml.

GR (G-5) is available conjugated to agarose (sc-393232 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393232 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393232 PE), fluorescein (sc-393232 FITC), Alexa Fluor® 488 (sc-393232 AF488), Alexa Fluor® 546 (sc-393232 AF546), Alexa Fluor® 594 (sc-393232 AF594) or Alexa Fluor® 647 (sc-393232 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393232 AF680) or Alexa Fluor® 790 (sc-393232 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GR (G-5) is recommended for detection of GR α and GR β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GR siRNA (h): sc-35505, GR siRNA (m): sc-35506, GR shRNA Plasmid (h): sc-35505-SH, GR shRNA Plasmid (m): sc-35506-SH, GR shRNA (h) Lentiviral Particles: sc-35505-V and GR shRNA (m) Lentiviral Particles: sc-35506-V.

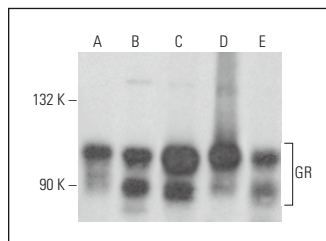GR (G-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of GR α/β: 95/90 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 whole cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.
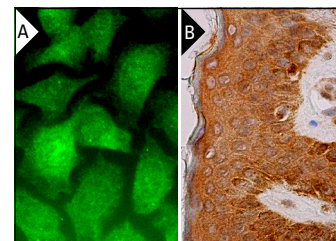
STORAGE

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

DATA

GR (G-5): sc-393232. Western blot analysis of GR expression in Hep G2 (**A**), Jurkat (**B**) and A-431 (**C**) whole cell lysates, A-431 nuclear extract (**D**) and mouse brain tissue extract (**E**).

GR (G-5): sc-393232. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic and nuclear staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (**B**).

SELECT PRODUCT CITATIONS

1. Sasse, S.K., et al. 2015. Response element composition governs correlations between binding site affinity and transcription in glucocorticoid receptor feed-forward loops. J. Biol. Chem. 290: 19756-19769.

2. Chu, W., et al. 2016. C2C12 myotubes inhibit the proliferation and differentiation of 3T3-L1 preadipocytes by reducing the expression of glucocorticoid receptor gene. Biochem. Biophys. Res. Commun. 472: 68-74.

3. Trusca, V.G., et al. 2017. Differential action of glucocorticoids on apolipoprotein E gene expression in macrophages and hepatocytes. PLoS ONE 12: e0174078.

4. Bachman, A.B., et al. 2018. Phosphorylation induced cochaperone unfolding promotes kinase recruitment and client class-specific Hsp90 phosphorylation. Nat. Commun. 9: 265.

5. Taves, M.D., et al. 2019. Single-cell resolution and quantitation of targeted glucocorticoid delivery in the thymus. Cell Rep. 26: 3629-3642.e4.

6. Hong, J.Y., et al. 2020. Long-term programming of CD8 T cell immunity by perinatal exposure to glucocorticoids. Cell 180: 847-861.e15.

7. Chen, T.C., et al. 2021. The role of striated muscle Pik3r1 in glucose and protein metabolism following chronic glucocorticoid exposure. J. Biol. Chem. 296: 100395.

8. Liu, B., et al. 2021. Loss of endothelial glucocorticoid receptor promotes angiogenesis via upregulation of Wnt/β-catenin pathway. Angiogenesis 24: 631-645.

9. Cabeza, L., et al. 2021. Chronic exposure to glucocorticoids induces suboptimal decision-making in mice. Eur. Neuropsychopharmacol. 46: 56-67.

RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA