

NR3C1

Reactivity: Human Mouse Rat

Tested applications: WB IHC IF

Recommended Dilution: WB 1:500 - 1:2000 IHC 1:50 - 1:200 IF 1:20 - 1:100

Calculated MW: 86kDa

Observed MW: Refer to Figures

Immunogen:

Recombinant protein of human NR3C1

Storage Buffer:

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Concentration:

k

Synonym:

GCCR; GCR; GR; GRL;

Catalog #: A2164

Antibody Type:

Polyclonal Antibody

Species: Rabbit

Gene ID: 2908

Isotype: IgG

Swiss Prot: P04150

Purity: Affinity purification

For research use only.

Background:

Glucocorticoid hormones control cellular proliferation, inflammation, and metabolism through their association with the glucocorticoid receptor (GR)/NR3C1, a member of the nuclear hormone receptor superfamily of transcription factors (1). GR is composed of several conserved structural elements, including a carboxy-terminal ligand-binding domain (which also contains residues critical for receptor dimerization and hormone-dependent gene transactivation), a neighboring hinge region containing nuclear localization signals, a central zinc-finger-containing DNA-binding domain, and an amino-terminal variable region that participates in ligand-independent gene transcription. In the absence of hormone, a significant population of GR is localized to the cytoplasm in an inactive form via its association with regulatory chaperone proteins, such as HSP90, HSP70, and FKBP52. On hormone binding, GR is released from the chaperone complex and translocates to the nucleus as a dimer to associate with specific DNA sequences termed glucocorticoid response elements (GREs), thereby enhancing or repressing transcription of specific target genes (2). It was demonstrated that GR-mediated transcriptional activation is modulated by phosphorylation (3-5). Although GR can be basally phosphorylated in the absence of hormone, it becomes hyperphosphorylated upon binding receptor agonists. It has been suggested that hormone-dependent phosphorylation of GR may determine target promoter specificity, cofactor interaction, strength and duration of receptor signaling, receptor stability, and receptor subcellular localization (3). Indeed Ser211 of human GR is phosphorylated to a greater extent in the presence of hormone, and biochemical fractionation studies following hormone treatment indicate that Ser211-phosphorylated GR is found in the nucleus (3). Thus, Ser211 phosphorylation is a biomarker for activated GR in vivo. An added layer of complexity to GR signaling lies in the ability of multiple isoforms to be generated through both alternative splicing and the use of alternative translation initiation start sites, thus increasing the repertoire of functional signaling homo- and heterodimers (6,7).

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