Background: Glucocorticoid hormones control cellular proliferation and metabolism through their association with the glucocorticoid receptor (GR), a member of the intracellular receptor superfamily of transcriptional regulatory proteins (1). The GR zinc binding region (ZBR) harbors the DNA binding and protein dimerization functions of GR and is essential for regulation of all known GR target genes. In the absence of hormone, GR is localized to the cytoplasm in association with a molecular chaperone complex that interacts with the GR ligand binding domain (LBD). On hormone binding, GR releases the chaperone complex and translocates to the cell nucleus to associate with specific DNA sequences termed glucocorticoid response elements (GREs), and increases or represses transcription of specific target genes (2). It was demonstrated that GR-mediated transcriptional activation is modulated by phosphorylation (3-5). Although GR can be phosphorylated in the absence of hormone, it is further phosphorylated in conjunction with agonist (but not antagonist) binding. It has been suggested that hormone-dependent phosphorylation of GR may determine target promoter specificity, cofactor interaction, strength and duration of receptor signaling, and receptor stability and receptor subcellular localization (3). Ser203 and Ser211 of human GR (corresponding to Ser224 and Ser232 of mouse GR) are phosphorylated to a greater extent in the presence of hormone. Ser203 and Ser211 may be phosphorylated by cyclin-dependent kinases (cdks). Biochemical fractionation studies following hormone treatment indicate that the Ser203-phosphorylated form of the receptor is predominantly cytoplasmic, whereas Ser211-phosphorylated GR is found in the nucleus (3). Thus, Ser211 phosphorylation is a biomarker for activated GR in vivo.

Specificity/Sensitivity: Phospho-Glucocorticoid Receptor (Ser211) Antibody detects endogenous levels of glucocorticoid receptor only when phosphorylated at Ser211. This antibody does not cross-react with other unrelated phosphorylated proteins.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding serine 211 of human glucocorticoid receptor. Antibodies are purified by protein A and peptide affinity chromatography.

Recommended Antibody Dilutions:
- Western Blotting: 1:1000
- Immunoprecipitation: 1:50
- Immunofluorescence (IF-IC): 1:1600

For product specific protocols please see the web page for this product at www.cellsignal.com.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at −20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Companion Products:
- Phospho-Glucocorticoid Receptor (Ser211) Antibody
- DyeLight™ 554 Phalloidin #13054 (red)

Applications Key:
- W—Western
- IP—Immunoprecipitation
- IHC—Immunohistochemistry
- CMIP—Chromatin Immunoprecipitation
- IF—Immunofluorescence
- F—Flow cytometry
- E—ELISA

Species Cross-Reactivity Key:
- H—human
- M—mouse
- R—rat
- Hm—hamster
- Mm—monkey
- Mi—mink
- Ch—chicken
- Dm—D. melanogaster
- X—Xenopus
- Z—zebrafish
- B—bovine

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For product specific protocols please see the web page for this product at www.cellsignal.com.