Glucocorticoid Receptor Antibody

**Product Specific Information**

**PAI-511A detects glucocorticoid receptor (GR) from human, mouse and rat tissues.**

PAI-511A has been successfully used in Western blot, immunocytochemistry, immunofluorescence, and immunohistochemistry procedures. By Western blot, this antibody detects an ~97 kDa protein representing GR from rat liver extract. Immunocytochemical staining of GR in HeLa cells using PAI-511A results in cytoplasmic staining in the absence of ligand, and nuclear staining after hormone administration.

The PAI-511A immunogen is a synthetic peptide corresponding to residues D(346) Q K P I F N V I P P I P V G S E N W N R C(367) from human GR. The PAI-511A immunizing peptide (Cat. # PEP-001) is available for use in neutralization and control experiments.

**General Information**

Steroid receptors are ligand-dependent, intracellular proteins that stimulate transcription of specific genes by binding to specific DNA sequences following activation by the appropriate hormone. Glucocorticoids are a family of steroids necessary for the regulation of energy metabolism and the immune and inflammatory responses. These compounds exert their effect through their interaction with the glucocorticoid receptor (GR) and that complex's subsequent association with DNA. All normal mammalian tissues examined to date have been shown to contain glucocorticoid receptor. The corresponding gene for the glucocorticoid receptor is NR3C1.
Human or animals.

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44 Western Blot References

Species / Dilution | Summary
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**Bv / Not Cited** | PA1-511A was used in western blot and immunohistochemistry to identify a transcriptionally active glucocorticoid receptor in lens epithelial cells.

Author(s): James ER, Robertson L, Ehlerl E, Fitzgerald P, Droin N, Green DR 
Number of Citations: 1 

**Bv / 0.5 ug/ml** | PA1-511A was used in western blot to study the mechanism for the anti-apoptotic effects of glucocorticoids in bovine blood neutrophils.

Author(s): Chang LC, Madsen SA, Toelboeht T, Weber PS, Burton JL 
Number of Citations: 1 

**Bv / 1 ug/ml** | PA1-511A was used in western blot to analyze bovine neutrophil transcriptome during anti-inflammatory glucocorticoid dexamethasone (Dex) treatment.

Author(s): Weber PS, Madsen-Bouterse SA, Rosa GJ, Sipkovsky S, Ren X, Almeida PE, Kruska R, Halgren RG, Barrick JL, Burton JL 
Number of Citations: 1 

**Hu / Not Cited** | PA1-511A was used in western blot to investigate the expression and function of glucocorticoid receptor isoforms in various bovine stromal-vascular cells.

Author(s): Ortiz-Colon G, Grant AC, Donnitt ME, Buskirk DD 
Number of Citations: 1 

**Hu / 1:200** | PA1-511A was used in western blot to produce novel antibodies specifically recognizing human GR.

Author(s): Bellingham DL, Sar M, Cidlowski JA 
Number of Citations: 4 

**Hu / 1:500** | PA1-511A was used in western blot to characterize glucocorticoid receptor in DMS-79 cells.

Author(s): Gaitan D, DeBold CR, Turner MK, Zhou P, Orth DN, Kovacs WJ 
Number of Citations: 1 

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PA1-511A was used in western blot and immunohistochemistry to identify a transcriptionally active glucocorticoid receptor in lens epithelial cells.

"Presence of a transcriptionally active glucocorticoid receptor alpha in lens epithelial cells."
Author(s): James ER, Robertson L, Ehrler E, Fitzgerald P, Drion N, Green DR
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PA1-511A was used in western blot to investigate the mechanisms mediating glucocorticoid (GC)-induced apoptosis by glucocorticoid receptor

"Role of mitochondrial glucocorticoid receptor in glucocorticoid-induced apoptosis."
Author(s): Sionov RV, Cohen O, Kfir S, Zilberman Y, Yefenof E
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"Cortisol and its action on the glucocorticoid receptor in malnutrition and acute infection."
Author(s): Manary MJ, Muglia LJ, Vogt SK, Yarasheski KE
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"Differential expression of glucocorticoid receptor in human breast tissues and related neoplasms."
Author(s): Lien HC, Lu YS, Cheng AL, Chang WC, Jeng YM, Kuo YH, Huang CS, Chang KJ, Yao YT
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PA1-511A was used in western blot and western blot to investigate the mechanism for glucocorticoid resistance observed in squirrel monkeys

"Glucocorticoid resistance in squirrel monkeys results from a combination of a transcriptionally incompetent glucocorticoid receptor and overexpression of the glucocorticoid receptor co-chaperone FKBP51."
Author(s): Westberry JM, Sadosky PW, Hubler TR, Gross KL, Scammell JG
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PA1-511A was used in chromatin immunoprecipitation and western blot to investigate the association of STAMP with coactivator TIF2 and its effect on GR-mediated gene repression and induction.

"STAMP, a novel predicted factor assisting TIF2 actions in glucocorticoid receptor-mediated induction and repression."
Author(s): He Y, Simons SS Jr
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PA1-511A was used in western blot and western blot to investigate the influence of staurosporine on T lymphoma cell apoptosis induced by glucocorticoid

"Staurosporine sensitizes T lymphoma cells to glucocorticoid-induced apoptosis: role of Nur77 and Bcl-2."
Author(s): Kfir S, Sionov RV, Zafrir E, Zilberman Y, Yefenof E
Number of Citations: 1

PA1-511A was used in western blot to investigate the application of glucocorticoids in the treatment of ocular diseases

"Differentiating intraocular glucocorticoids."
Author(s): N/A
Number of Citations: 1

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Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, so as forth in the Product documentation, specifications and/or accompanying package inserts (“Documentation”). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, the warranty does not extend to anyone other than Buyer, nor is it applicable to any alterations or modifications made by Buyer. The warranty does not extend to anyone other than Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

This warranty does not extend to anyone other than Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is to be used for any other purposes, including without limitation, unapproved commercial uses, in diagnostic tests, ex vivo or in vivo therapeutic uses, or any type of experimentation or application in human or animal studies.
PA1-511A was used in immunocytochemistry and western blot to investigate the effect of mutations in glucocorticoid receptor ligand binding domain on its interaction with cofactors.

"Ligand Binding Domain Mutations of the Glucocorticoid Receptor Selectively Modify the Effects with, but Not Binding of, Cofactors."
Author(s): Lee GS, Simons SS
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PA1-511A was used in western blot to study a lysosomal pathway that modulates glucocorticoid signaling and the inflammatory response.

"Identification of a lysosomal pathway that modulates glucocorticoid signaling and the inflammatory response."
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PA1-511A was used in western blot to investigate the mechanisms mediating glucocorticoid (GC)-induced apoptosis by glucocorticoid receptor.

"Role of mitochondrial glucocorticoid receptor in glucocorticoid-induced apoptosis."  
Author(s): Sionov RV, Cohen O, Kfir S, Zilberman Y, Yefenof E
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Neuroreport. 2006 Jun 26;17(9):879-82.
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Author(s): Tahera Y, Meltser I, Johansson P, Canlon B
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PA1-511A was used in immunohistochemistry and western blot to investigate the protective effect of sound conditioning against damage caused by acoustic trauma and its mechanism.

"Sound conditioning protects hearing by activating the hypothalamic-pituitary-adrenal axis."  
Author(s): Tahera Y, Melser I, Johansson P, Salman H, Canlon B  
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J Cell Sci. 2009 Feb 1;122(Pt 3):345-56.  
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"Glucocorticoid resistance in squirrel monkeys results from a combination of a transcriptionally incompetent glucocorticoid receptor and overexpression of the glucocorticoid co-chaperone FKBP51."
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PA1-511A was used in western blot to investigate the mechanism for the effect of glucocorticoids on Epstein Barr virus lytic replication.

"Glucocorticoids activate Epstein Barr virus lytic replication through the upregulation of immediate early BZLF1 gene expression."
Author(s): Yang EV, Webster Marketon Ji, Chen M, Lo KW, Kim SJ, Glaser R
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PA1-511A was used in western blot to study the effect of long-term hypoxia on the expression of select genes in ovine fetus during late gestation.

"Long-term hypoxia modulates expression of key genes regulating adrenomedullary function in the late gestation ovine fetus."
Author(s): Duscsay CA, Hyatt K, Mlynarczyk M, Root BK, Kaushal KM, Myers DA
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PA1-511A was used in western blot to examine the effect of long-term hypoxia on the expression of GR in the ovine fetal adrenal cortex.

"Expression and distribution of glucocorticoid receptors in the ovine fetal adrenal cortex: effect of long-term hypoxia."
Author(s): Root B, Abrassart J, Myers DA, Monau T, Ducsay CA
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PA1-511A was used in western blot and immunohistochemistry to identify a transcriptionally active glucocorticoid receptor in lens epithelial cells.

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Author(s): James ER, Robertson L, Ehlers E, Fitzgerald P, Droin N, Green DR
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"A glucocorticoid/retinoic acid receptor chimera that displays cytoplasmic/nuclear translocation in response to retinoic acid. A real time sensing assay for nuclear receptor ligands."
Author(s): Mackem S, Baumann CT, Hager GL
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PA1-511A was used in western blot to study the sex-dependent effect of imipramine treatment on rat brain and pituitary corticosteroid receptors and heat shock proteins levels.

J Neural Transm. 2007;114(8):1069-80.
"Long-term imipramine treatment affects rat brain and pituitary corticosteroid receptors and heat shock proteins levels in a gender-specific manner."
Author(s): Elakovi? I, Brk?ac? J, Mati? G
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PA1-511A was used in western blot to study the role of glucocorticoid receptor in adolescent moderate asthma.

"Modulation of glucocorticoid receptor function and expression in adolescent moderate asthma."
Number of Citations: 1
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"Gender-related differences in the effects of antidepressant imipramine on glucocorticoid receptor binding properties and association with heat shock proteins in the rat liver and kidney."
Author(s): Elaković, I, Brkljačić, J, Matić, G
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PA1-511A was used in western blot to investigate the effect of cranial irradiation on activation of HPA axis and corticosteroid receptor expression in juvenile rat hippocampus.

Gen Physiol Biophys. 2009;28 Spec No():219-27.
"Cranial irradiation modulates hypothalamic-pituitary-adrenal axis activity and corticosteroid receptor expression in the hippocampus of juvenile rat."  
Author(s): Velickovic, N, Djordjevic, A, Drakulic, D, Stanoevic, I, Secerov, B, Horvat A 
Number of Citations: 0

PA1-511A was used in western blot to investigate the influence of fluoxetine on glucocorticoid receptor function in livers of rats.

"Sexually dimorphic functional alterations of rat hepatic glucocorticoid receptor in response to fluoxetine."
Author(s): Elaković, I, Vasiljević, D, Adzic, M, Djordjevic, J, Radojić, M, Matić, G
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PA1-511A was used in western blot to study the mechanism for the preventive effect of exercise on hyperglucocorticoidemia.

"Regular exercise prevents the development of hyperglucocorticoidemia via adaptations in the brain and adrenal glands in male Zucker diabetic fatty rats."
Author(s): Campbell, JE, Király, MA, Atkinson, DJ, D’souza, AM, Vranic, M, Riddell, MC
Number of Citations: 1

PA1-511A was used in western blot to investigate the effect of stress and fluoxetine on brain corticosteroid receptors between sexes.

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Author(s): Elaković, I, Djordjevic, A, Adzic, M, Djordjevic, J, Radojić, M, Matić, G
Number of Citations: 1

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"Heat shock protein hsp90 regulates dioxin receptor function in vivo."
Author(s): Whitelaw, ML, McGuire, J, Picard, D, Gustafsson, JA, Poellinger, L
Number of Citations: 19

9 Immunocytochemistry References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
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<tr>
<td><strong>Hu / 1:250</strong></td>
<td>PA1-511A was used in immunocytochemistry to investigate the localization of the glucocorticoid receptor in the cell nucleus.</td>
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"Differential effects of RU486 reveal distinct mechanisms for glucocorticoid repression of prostaglandin E release."

Author(s): Chivers JE, Cambridge LM, Catley MC, Mak JC, Donnelly LE, Barnes PJ, Newton R
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<td>PA1-511A</td>
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<td>J Pathol. 2006 Jul;209(3):317-27.</td>
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"Differential expression of glucocorticoid receptor in human breast tissues and related neoplasms."

Author(s): Lien HC, Lu YS, Cheng AL, Chang WC, Jeng YM, Kuo YH, Huang CS, Chang KJ, Yao YT
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<td>Biochemistry. 2010 Dec 30;(44):</td>
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"Ligand Binding Domain Mutations of the Glucocorticoid Receptor Selectively Modify the Effects with, but Not Binding of, Cofactors."

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<td>Endocrinology. 1991 Dec;129(6):3064-72.</td>
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"Immunocytochemical localization of the glucocorticoid receptor in rat brain, pituitary, liver, and thymus with two new polyclonal antipeptide antibodies."

Author(s): McGimsey WC, Cidlowski JA, Stumpf WE, Sar M
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<td>PA1-511A</td>
<td>PA1-511A was used in immunocytochemistry to investigate the association between beta-catenin and androgen receptor.</td>
<td>J Biol Chem. 2002 Jun 7;277(23):20702-10.</td>
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"Liganded androgen receptor interaction with beta-catenin: nuclear co-localization and modulation of transcriptional activity in neuronal cells."

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<td>PA1-511A</td>
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<td>Endocrinology. 2004 Jul;145(7):3404-12.</td>
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"Differential effects of adrenalectomy on melanin-concentrating hormone and orexin A."

Author(s): Drazen DL, Coolen LM, Strader AD, Wortman MD, Woods SC, Seeley RJ
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"Ca2+ sparks and cellular distribution of ryanodine receptors in developing cardiomyocytes from rat."

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<td>PA1-511A</td>
<td>PA1-511A was used in immunocytochemistry to investigate the influence of prenatal dexamethasone treatment on adult rat offspring.</td>
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"Prenatal dexamethasone impairs behavior and the activation of the BDNF exon IV promoter in the paraventricular nucleus in adult offspring."

Author(s): Hossain A, Hajman K, Charitidi K, Erhardt S, Zimmermann U, Knipper M, Canlon B
Number of Citations: 1

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"Prostaglandin treatment is associated with a withdrawal of progesterone and androgen at the receptor level in the uterine cervix."
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"Estrogen receptor beta activation prevents glucocorticoid receptor-dependent effects of the central nucleus of the amygdala on behavior and neuroendocrine function."
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PA1-511A was used in immunohistochemistry to investigate the effect of early life stress on the expression of glucocorticoid receptor and early growth response gene 1

"Expression of glucocorticoid receptor and early growth response gene 1 during postnatal development of two inbred strains of mice exposed to early life stress."
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Author(s): Ackermann D, Gresco N, Carrel M, Loffing-Cueni D, Habermehl D, Gomez-Sanchez C, Rossier BC, Loffing J
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"The glucocorticoid receptor mediates the thymic epithelial cell-induced apoptosis of CD4+8+ thymic lymphoma cells."
Author(s): Zilberman Y, Zafrir E, Ovadia H, Yefenof E, Guy R, Sionov RV
Number of Citations: 1

PA1-511A was used in immunoprecipitation and western blot to investigate the mechanism for the chromatin structure on glucocorticoid receptor binding

"Chromatin accessibility pre-determines glucocorticoid receptor binding patterns."
Author(s): John S, Sabo PJ, Thurman RE, Sung MH, Biddie SC, Johnson TA, Hager GL, Stamatoyannopoulos JA
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Author(s): Voss TC, Schiltz RL, Sung MH, Yen PM, Stamatóyannopoulos JA, Biddie SC, Johnson TA, Miranda TB, John S, Hager GL
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Author(s): Pang XY, Cheng J, Kim JH, Matsubara T, Krausz KW, Gonzalez FJ
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"BDNF and glucocorticoids regulate corticotropin-releasing hormone (CRH) homeostasis in the hypothalamus."
Author(s): Jeanneteau FD, Lambert WM, Ismaili N, Bath KG, Lee FS, Garabedian MJ, Chao MV
Number of Citations: 1

6 ChIP assay References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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<td>Hu / Not Cited</td>
<td>PA1-511A was used in ChIP assay to study the role of different regions of the glucocorticoid receptor in glucocorticoid-mediated gene expression</td>
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<td>&quot;Separate regions of glucocorticoid receptor, coactivator TIF2, and comodulator STAMP modify different parameters of glucocorticoid-mediated gene induction.&quot;</td>
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<td>Author(s): Awasthi S, Simons SS Jr</td>
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<td>Hu / 0</td>
<td>PA1-511A was used in ChIP assay to study the effect of DNA methylation on cell type-specific enhancer activity</td>
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<td>PA1-511A was used in ChIP assay and western blot to study the regulatory mechanisms for adipocyte differentiation</td>
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<td>&quot;Propagation of adipogenic signals through an epigenomic transition state.&quot;</td>
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<td>Author(s): Steger DJ, Grant GR, Schupp M, Tomaru T, Leterová MI, Schug J, Manduchi E, Stocek CJ Jr, Lazar MA</td>
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PA1-511A was used in ChIP assay to investigate the changes of chromatin structure in early adipogenesis

*EMBO J. 2011 Apr 20;30(8):1459-72.*

"Extensive chromatin remodelling and establishment of transcription factor 'hotspots' during early adipogenesis."


Number of Citations: 1


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"Transcription factor AP1 potentiates chromatin accessibility and glucocorticoid receptor binding."


Number of Citations: 1


### 1 Gel Shift Reference

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<th>Species / Dilution</th>
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<td><strong>Hu / Not Cited</strong></td>
<td>PA1-511A was used in EMSA assay to investigate the interaction between glucocorticoid receptor and mineralocorticoid receptor</td>
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"Heterodimerization between mineralocorticoid and glucocorticoid receptor: a new principle of glucocorticoid action in the CNS."

Author(s): Trapp T, Rupprecht R, Castrén M, Reul JM, Holsboer F

Number of Citations: 10


### 1 Blocking Assay Reference

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<td><strong>Bv / Not Cited</strong></td>
<td>PA1-511A was used in blocking or activating experiment to examine the status of steroid hormone receptors in the bovine intercaruncular uterine wall around parturition</td>
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"Progesterone receptors, oestrogen receptor alpha and glucocorticoid receptors in the bovine intercaruncular uterine wall around parturition."

Author(s): Schäubli M, Ritter N, Hässig M, Zerbe H, Bleul U, Boos A

Number of Citations: 2


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