

Store at  
-20°C

# $\beta$ -Arrestin 1 (D7Z3W) XP® Rabbit mAb

#30036

Cell Signaling  
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orders@cellsignal.comEntrez-Gene ID #408  
UniProt ID #P49407

New 06/15

For Research Use Only. Not For Use In Diagnostic Procedures.

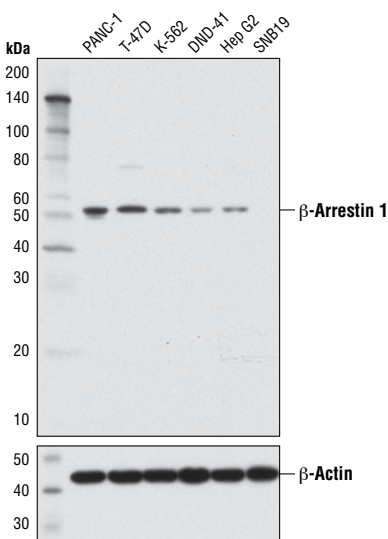
Applications  
W, IHC-P  
EndogenousSpecies Cross-Reactivity\*  
H, M, RMolecular Wt.  
51 kDaIsotype  
Rabbit IgG\*\*

**Background:** Arrestin proteins function as negative regulators of G protein-coupled receptor (GPCR) signaling. Cognate ligand binding stimulates GPCR phosphorylation, which is followed by binding of arrestin to the phosphorylated GPCR and the eventual internalization of the receptor and desensitization of GPCR signaling (1). Four distinct mammalian arrestin proteins are known. Arrestin 1 (also known as S-arrestin) and arrestin 4 (X-arrestin) are localized to retinal rods and cones, respectively. Arrestin 2 (also known as  $\beta$ -arrestin 1) and arrestin 3 ( $\beta$ -arrestin 2) are ubiquitously expressed and bind to most GPCRs (2).  $\beta$ -arrestins function as adaptor and scaffold proteins and play important roles in other processes, such as recruiting c-Src family proteins to GPCRs in Erk activation pathways (3,4).  $\beta$ -arrestins are also involved in some receptor tyrosine kinase signaling pathways (5-8). Additional evidence suggests that  $\beta$ -arrestins translocate to the nucleus and help regulate transcription by binding transcriptional cofactors (9,10).

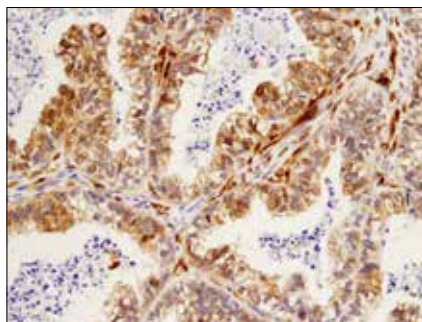
The non-visual  $\beta$ -arrestins respond to glucocorticoid signaling, with differential responses observed among family members. Specifically,  $\beta$ -arrestin 1 expression is increased in response to glucocorticoid receptor activation whereas  $\beta$ -arrestin 2 shows a concomitant decrease in expression (11).

**Specificity/Sensitivity:**  $\beta$ -Arrestin (D7Z3W) XP® Rabbit mAb recognizes endogenous levels of total  $\beta$ -arrestin 1 protein. This antibody does not cross-react with other arrestin proteins.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg363 of human  $\beta$ -arrestin 1 protein.



Western blot analysis of extracts from various cell lines using  $\beta$ -Arrestin 1 (D7Z3W) XP® Rabbit mAb (upper) and  $\beta$ -Actin (D6A8) Rabbit mAb #8457 (lower).



Immunohistochemical analysis of paraffin-embedded human ovarian carcinoma using  $\beta$ -Arrestin 1 (D7Z3W) XP® Rabbit mAb.

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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 Antibody Dilutions:**

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:300†
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com)

**Background References:**

- (1) Shenoy, S.K. and Lefkowitz, R.J. (2005) *Sci STKE* 2005, cm10.
- (2) Lefkowitz, R.J. and Shenoy, S.K. (2005) *Science* 308, 512-7.
- (3) Luttrell, L.M. et al. (1999) *Science* 283, 655-61.
- (4) Luttrell, L.M. et al. (1999) *Curr Opin Cell Biol* 11, 177-83.
- (5) Luttrell, L.M. and Lefkowitz, R.J. (2002) *J Cell Sci* 115, 455-65.
- (6) Waters, C. et al. (2004) *Semin Cell Dev Biol* 15, 309-23.
- (7) Lefkowitz, R.J. and Whalen, E.J. (2004) *Curr Opin Cell Biol* 16, 162-8.
- (8) Waters, C.M. et al. (2005) *Cell Signal* 17, 263-77.
- (9) Kang, J. et al. (2005) *Cell* 123, 833-47.
- (10) Ma, L. and Pei, G. (2007) *J Cell Sci* 120, 213-8.
- (11) Oakley, R.H. et al. (2012) *Proc Natl Acad Sci USA* 109, 17591-6.

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**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.**

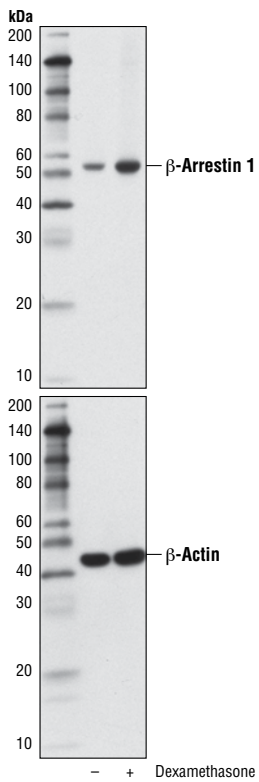
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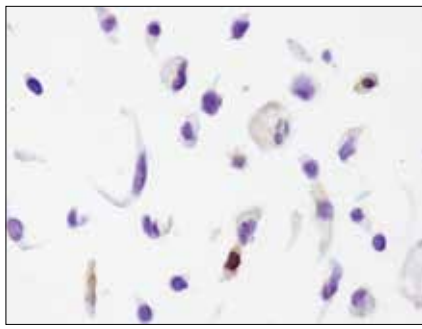
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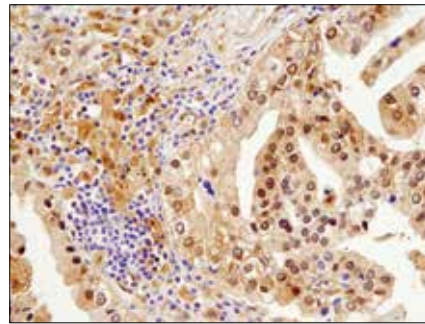
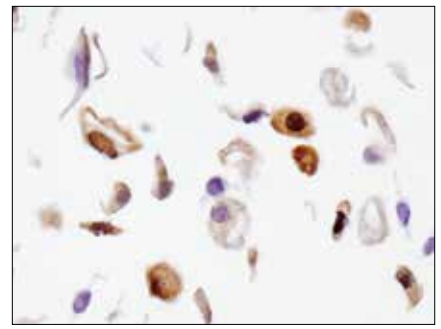
Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Western blot analysis of extracts from A549 cells, vehicle-treated (-) or treated with dexamethasone (100 nM, 16 hr; +), using  $\beta$ -Arrestin 1 (D7Z3W) XP<sup>®</sup> Rabbit mAb (upper) and  $\beta$ -Actin (D6A8) Rabbit mAb #8457 (lower).



Immunohistochemical analysis of paraffin-embedded A549 cell pellets, untreated (left) or dexamethasone-treated (100 nM, 16 hr; right), using  $\beta$ -Arrestin 1 (D7Z3W) XP<sup>®</sup> Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma using  $\beta$ -Arrestin 1 (D7Z3W) XP<sup>®</sup> Rabbit mAb.

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