Revision 3

#5628 Store at -20C

IRF-8 (D20D8) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, ChIP, ChIP-seq	H M	Endogenous	50	Rabbit IgG	#Q02556	3394

Product Usage Information

For optimal ChIP and ChIP-seq results, use 20 µl of antibody and 10 µg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Chromatin IP	1:25
Chromatin IP-seq	1:25

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

IRF-8 (D20D8) Rabbit mAb detect endogenous levels of total IRF-8 protein. An unknown background band is detected at 80 kDa in some cell lines.

Species predicted to react based on 100% sequence homology

Rat, Monkey, Xenopus, Bovine

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly65 of human IRF-8 protein.

Background

Interferon regulatory factors (IRFs) comprise a family of transcription factors that function within the Jak/Stat pathway to regulate interferon (IFN) and IFN-inducible gene expression in response to viral infection (1). IRFs play an important role in pathogen defense, autoimmunity, lymphocyte development, cell growth, and susceptibility to transformation. The IRF family includes nine members: IRF-1, IRF-2, IRF-9/ISGF3γ, IRF-3, IRF-4 (Pip/LSIRF/ICSAT), IRF-5, IRF-6, IRF-7, and IRF-8/ICSBP. All IRF proteins share homology in their amino-terminal DNA-binding domains. IRF family members regulate transcription through interactions with proteins that share similar DNA-binding motifs, such as IFN-stimulated response elements (ISRE), IFN consensus sequences (ICS), and IFN regulatory elements (IRF-E) (2).

IRF-8/ICSBP is expressed predominately in hematopoietic cells and is further increased upon treatment with interferon (3,4). IRF-8 can function as a transcription repressor of ICS-containing promoters (4). Expression of IRF-8 can lead to the downregulation of the anti-apoptotic protein Bcl-2 (5). Originally described as being induced by IFN-γ, IRF-8 expression is also elevated by IRF-α as well as IL-12 in NK and T cells (6). IRF-8 deficient mice have enhanced susceptibility to various pathogens and impaired production of interferons, as well as deregulated hematopoiesis that resembles chronic myelogenous leukemia (7,8). IRF-8 also regulates bone metabolism by suppressing osteoclast formation (9).

Background References

1. Taniguchi, T. et al. (2001) *Annu Rev Immunol* 19, 623-55.
2. Honda, K. and Taniguchi, T. (2006) *Nat Rev Immunol* 6, 644-58.
3. Driggers, P.H. et al. (1990) *Proc Natl Acad Sci U S A* 87, 3743-7.
4. Weisz, A. et al. (1992) *J Biol Chem* 267, 25589-96.
5. Burchert, A. et al. (2004) *Blood* 103, 3480-9.
6. Lehtonen, A. et al. (2003) *Cytokine* 24, 81-90.
7. Holtschke, T. et al. (1996) *Cell* 87, 307-17.
8. Fehr, T. et al. (1997) *J Exp Med* 185, 921-31.
9. Zhao, B. et al. (2009) *Nat Med* 15, 1066-71.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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 **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses