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ID3 (D16D10) Rabbit mAb (Alexa Fluor® 488 Conjugate)

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

Applications: FC-FP	Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #Q02535	Entrez-Gene Id: 3399
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Product Usage Information

Application

Flow Cytometry (Fixed/Permeabilized)

Dilution

1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

ID3 (D16D10) Rabbit mAb (Alexa Fluor® 488 Conjugate) recognizes endogenous levels of total ID3 protein.

Species predicted to react based on 100% sequence homology

Dog, Rabbit

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human ID3 protein.

Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated ID3 (D16D10) Rabbit mAb #9837.

Background

Inhibitor of DNA-binding/Differentiation (ID) proteins are a family of proteins that function to repress the activity of basic helix-loop-helix (bHLH) transcription factors. There are four known ID proteins in humans (ID1-4), all of which contain a helix-loop-helix domain but lack a basic DNA binding domain. Heterodimerization with bHLH transcription factors therefore functions to sequester bHLH proteins and prevent their binding to DNA (1). ID proteins play important functional roles in development, primarily by inhibiting premature differentiation of stem/progenitor cells (1,2). ID3 plays an important role in immune system development where it has been shown to repress E2A-mediated differentiation of T cells (3). Studies in mouse models have shown that homozygous deletion of ID3 disrupts regulatory T cell differentiation (4) and leads to development of $\gamma\delta$ T cell lymphoma (5). Outside of the hematopoietic compartment, ID3 was shown to repress MyoD, implicating ID3 in TGF β -mediated muscle repair (6). Similarly, research studies have shown that ID3 suppresses p21 in colon cancer cells, a function that is purported to promote the self-renewal capacity of putative cancer-initiating cells (7).

Background References

1. Yokota, Y. (2001) *Oncogene* 20, 8290-8.
2. Hong, S.H. et al. (2011) *J Cell Sci* 124, 1445-52.
3. Miyazaki, M. et al. (2011) *Nat Immunol* 12, 992-1001.
4. Maruyama, T. et al. (2011) *Nat Immunol* 12, 86-95.
5. Li, J. et al. (2010) *Blood* 116, 5615-21.
6. Clever, J.L. et al. (2010) *Am J Physiol Cell Physiol* 298, C1087-99.
7. O'Brien, C.A. et al. (2012) *Cancer Cell* 21, 777-92.

Species Reactivity

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

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human

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