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#3865

## IL-1RA (20D8) Mouse mAb

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

<b>Applications:</b> W	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 18	<b>Source/Isotype:</b> Mouse IgG1	<b>UniProt ID:</b> #P18510	<b>Entrez-Gene Id:</b> 3557
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### Product Usage Information

#### Application

Western Blotting

#### Dilution

1:1000

### 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

IL-1RA (20D8) Mouse mAb detects endogenous IL-1RA protein. It does not cross-react with other related proteins.

### Source / Purification Background

Monoclonal antibody is produced by immunizing animals with recombinant human IL-1RA protein.

The founding members of the interleukin-1 (IL-1) superfamily include pro-inflammatory cytokines IL-1 $\alpha$  and IL-1 $\beta$ , and a third protein that acts as an IL-1 receptor antagonist (IL-1RA). At least six similar proteins have been recently identified, including a homolog of IL-1RA (IL1F5). The three better-characterized proteins (IL-1a, IL-1b, and IL-1RA) are mainly expressed in macrophages, monocytes, and dendritic cells. IL-1a and IL-1b act as potent inflammatory cytokines that help regulate host defense and immune responses (1). Binding of these pro-inflammatory cytokines to an IL-1 receptor recruits adaptor proteins (such as IRAK) to the receptor. Phosphorylation of these adaptor proteins promotes downstream signaling cascades associated with the immune response (2). Altered expression of both IL-1a and IL-1b is associated with an extensive list of human disorders, including Alzheimer's disease, rheumatoid arthritis, psoriasis, and various forms of cancer (3,4). IL-1RA acts as an anti-inflammatory cytokine, binding the IL-1 receptor to limit the response to inflammation (5). Because it plays a key role in regulating the inflammatory response, recombinant IL-1RA is a therapeutic agent used in the treatment of diseases, such as rheumatoid arthritis. Alternatively, mutation of the corresponding *IL-1RA* gene may be associated with susceptibility to the development of specific cancers (6).

### Background References

1. Pelegri, P. (2008) *Drug News Perspect* 21, 424-33.
2. Ringwood, L. and Li, L. (2008) *Cytokine* 42, 1-7.
3. Griffin, W.S. and Mrak, R.E. (2002) *J Leukoc Biol* 72, 233-8.
4. Kamangar, F. et al. (2006) *Cancer Epidemiol Biomarkers Prev* 15, 1920-8.
5. Arend, W.P. (2002) *Cytokine Growth Factor Rev* 13, 323-40.
6. Sehoul, J. et al. (2002) *Anticancer Res* 22, 3421-4.

### 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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting

### Cross-Reactivity Key

**H:** Human

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