# ID4 Antibody PCRP-ID4-1A1 / Inhibitor of Differentiation 4 Antibody [clone PCRP-ID4-1A1] (V5162)

| Catalog No. | Formulation | Size |
|---|---|---|
| V5162-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 100 ug |
| V5162-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 20 ug |
| V5162SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

## Bulk quote request

| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Monoclonal (mouse origin) |
| **Isotype** | Mouse IgG1 |
| **Clone Name** | PCRP-ID4-1A1 |
| **Purity** | Protein A/G affinity |
| **UniProt** | P47928 |
| **Localization** | Nucleus |
| **Applications** | ELISA (Order BSA-free format for coating)<br>Western blot: 1-2ug/ml |
| **Limitations** | This ID4 Antibody PCRP-ID4-1A1 / Inhibitor of Differentiation 4 Antibody is available for research use only. |




ID4 Antibody PCRP-ID4-1A1 Protein Microarray Validated. Protein microarray analysis of ID4 Antibody, clone PCRP-ID4-1A1, using a HuProt array containing more than 19,000 full-length human proteins. ID4 produced the highest-ranked signal with a Z-score of 53.09 and an S-score of 51.28, showing strong preferential recognition of the intended target. The Z-score represents signal strength in standard deviations above the mean of all signals generated on the array, while the S-score measures the separation between the intended target and the next-highest ranked protein. These results support high target specificity of this Inhibitor of Differentiation 4 Antibody.

## Description

ID4 Antibody PCRP-ID4-1A1 / Inhibitor of Differentiation 4 Antibody recognizes ID4, a member of the inhibitor of DNA binding/inhibitor of differentiation family of helix-loop-helix proteins. ID4 belongs to a small family that also includes ID1, ID2, and ID3. Unlike conventional basic helix-loop-helix transcription factors, ID proteins lack the basic DNA-binding domain required for direct sequence-specific DNA recognition. Instead, they regulate transcription primarily through protein-protein interactions with other helix-loop-helix factors.

ID4 can heterodimerize with basic helix-loop-helix transcription factors and interfere with formation of transcriptionally active DNA-binding complexes. Through this dominant-negative regulatory mechanism, Inhibitor of Differentiation 4 contributes to control of gene expression programs associated with cell fate and differentiation. ID family proteins can have distinct biological effects depending on cellular context, developmental stage, and the transcriptional partners available within a particular cell.

ID4 has been studied extensively in developmental and stem cell biology, particularly in mechanisms controlling lineage commitment, cellular differentiation, and maintenance of progenitor populations. Its regulatory functions have also made ID4 relevant to neuroscience and cancer research. Altered ID4 expression has been reported in multiple malignancies, although its biological consequences vary substantially by tumor type and cellular context. Depending on the biological system, ID4-associated mechanisms have been investigated in relation to proliferation, differentiation, tumor suppression, and tumor progression.

Clone PCRP-ID4-1A1 is a mouse monoclonal antibody generated against a recombinant human ID4 protein sequence within amino acids 62-112. This defined clone is Protein Microarray Validated using a HuProt array containing more than 19,000 full-length human proteins, providing additional characterization of its target recognition.

NSJ Bioreagents offers clone PCRP-ID4-1A1 for research into ID4 biology and transcriptional regulation. An ID4 Antibody can support investigation of differentiation, developmental regulation, cell-fate mechanisms, transcriptional control, and ID4-associated cancer biology.

Explore our Cancer Marker Antibodies page for additional reagents targeting proteins associated with tumor development, proliferation, differentiation, and cancer progression.

## Application Notes

Optimal dilution of the ID4 Antibody PCRP-ID4-1A1 / Inhibitor of Differentiation 4 Antibody should be determined by the researcher.

## Immunogen

A recombinant partial protein sequence (within amino acids 62-112) from the human protein was used as the immunogen for the ID4 Antibody PCRP-ID4-1A1.

## Storage

Aliquot the ID4 Antibody PCRP-ID4-1A1 and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

## Alternate Names

ID4 antibody, Inhibitor of differentiation 4 antibody, Inhibitor of DNA binding 4 antibody, DNA-binding protein inhibitor ID-4 antibody, ID-4 antibody

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