



## Product Information

### Monoclonal Anti-Coilin

Clone p $\delta$   
Purified Mouse Immunoglobulin

Product Number **C 1862**

#### Product Description

Monoclonal Anti-Coilin (mouse IgG1 isotype) is derived from the p $\delta$  hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with coilin (C-terminus, 389 amino acids). The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Coilin reacts with an epitope located between amino acids 363 and 481 of human coilin. It may be used in immunoblotting (approx. 80 kDa),<sup>1</sup> immunocytochemistry,<sup>1</sup> and cell microinjection.<sup>1</sup> The antibody recognizes human coilin and does not recognize mouse coilin.<sup>1</sup>

The description of specific intranuclear structures known today as Cajal bodies was first published in 1903 by the neuro-cytologist Ramon-y-Cajal.<sup>2</sup> He observed that neurons stained with silver contained spherical structures of around 0.5  $\mu$ m in diameter that were often associated with nucleoli and called them nucleolar accessory bodies. Later, the same bodies were called coiled bodies since when these structures were viewed by electron microscopy, they resembled a tangle of coiled threads.<sup>3</sup> It was found that patients with autoantibodies against coiled bodies recognize a protein of 80 kDa termed p80-coilin. Using these antibodies, coiled bodies were identified in plants, flies, frogs, birds, and mammals.<sup>4</sup>

The gene encoding p80-coilin has been cloned and sequenced.<sup>5</sup> It contains two nuclear localization sequences (NLS) (at amino acid 107-112 and 181-198) and several serine residues that are phosphorylated *in vivo*. Mutating Serine-202 to Aspartate causes the disappearance of coiled bodies and a redistribution of coilin to intranucleolar domains. Nuclear antigens shown to colocalize with p80 coilin in Cajal bodies include basal transcription factors, cell cycle factors (cdks), splicing snRNPs and nucleolar factors including snoRNPs.<sup>6</sup>

#### Reagent

Monoclonal Anti-Coilin is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.  
Antibody Concentration: Approx. 2 mg/ml.

#### Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

#### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

#### Product Profile

A minimum working concentration of 1-2  $\mu$ g/ml is determined by immunoblotting using HeLa nuclear extract.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

#### References

1. Almeida, F., et al., J. Cell Biol., **142**, 899-912 (1998).
2. Ramon-y-Cajal, S.R., Trab. Lab. Invest. Biol., **2**, 129-221 (1903).
3. Hervas, J.P., et al., Am. J. Anat., **159**, 164-170 (1980).
4. Bohmann, K., et al., J. Cell Sci., **19**, 107-113 (1995).

5. Carmo-Fonseca, M., et al., In: Manual of Biological Markers of Disease, ed.: van Venrooij, W.J., and Maini, R.N., Kluwer Academic Publishers, MA. B8. **2**, 1-11.

6. Gall, J.G., Annu. Rev. Cell Dev. Biol., **16**, 273-300 (2000).

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