



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



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# Product Information



## Programmed Cell Death Protein 4 (C-Term) Blocking Peptide

Item No. 13365

Programmed cell death protein 4 (PDCD4) levels are elevated during apoptosis and absent in many cancer samples.<sup>1,2</sup> Loss of PDCD4 expression is an important event in cancer cell progression whereas the restoration of PDCD4 protein can lower metalloproteinase activity and possible metastasis.<sup>2,3</sup> The known isoforms of PDCD4 differ only at the N-termini with isoform 1 comprised of 468 amino acids and isoform 2 comprised of 458 amino acids. Each isoform contains two MA-3 domains essential for PDCD4 binding eIF4A and thereby suppression of cell cycle regulation and growth factor production.<sup>2-4</sup> This antibody is capable of detecting both PDCD4 isoforms. Additional protein modifications are possible and can explain the range of masses detected by the immunoblotting (52-64 kDa).<sup>1</sup> The molecular mechanisms of PDCD4 influence on tumor suppression are becoming known but warrant further research.<sup>2,3,5</sup>

### Laboratory Procedures

This vial contains 200 µg peptide in 200 µl TBS, pH 7.4, containing 0.1% BSA and 0.02% sodium azide. The PDCD4 (C-Term) blocking peptide can be used in conjunction with Cayman's PDCD4 Polyclonal Antibody (Item No. 10250) to block protein-antibody complex formation during immunochemical analysis of PDCD4.

Store this peptide solution at -20°C. It will be stable for at least two years. To block antibody/protein complex formation, the following procedure is recommended:

1. Dilute the PDCD4 (C-Term) Polyclonal Antibody (Item No. 10250) to the desired working dilution in an appropriate blocking buffer.
2. Add the control peptide at a final concentration of 5 µg/ml\* to the antibody mixture with subsequent mixing by inversion.
3. Incubate the peptide and antibody mixture for one hour at room temperature prior to application to the slide or membrane.

\*This is a recommended mixture. The minimum amount of peptide needed for complete blocking has not been precisely determined and may vary depending on the sample being analyzed. The amount of peptide required may need to be increased if sufficient blocking does not occur.

### References

1. Cmarik, J.L., Min, H., Hegamyer, G., *et al.* Differentially expressed protein Pcd4 inhibits tumor promoter-induced neoplastic transformation. *Proc. Natl. Acad. Sci. USA* **96(24)**, 14037-14042 (1999).
2. Nieves-Alicea, R., Colburn, N.H., Simeone, A.-M., *et al.* Programmed cell death 4 inhibits breast cancer cell invasion by increasing tissue inhibitor of metalloproteinases-2 expression. *Breast Cancer Res. Treat.* (2008).
3. Bitomsky, N., Wethkamp, N., Marikkannu, R., *et al.* siRNA-mediated knockdown of Pcd4 expression causes upregulation of p21(Waf1/Cip1) expression. *Oncogene* (2008).
4. Yang, H.-S., Cho, M.-H., Zakowicz, H., *et al.* A novel function of the MA-3 domains in transformation and translation suppressor Pcd4 is essential for its binding to eukaryotic translation initiation factor 4A. *Mol. Cell. Biol.* **24(9)**, 3894-3906 (2004).
5. Böhm, M., Sawicka, K., Siebrasse, J.P., *et al.* The transformation suppressor protein Pcd4 shuttles between nucleus and cytoplasm and binds RNA. *Oncogene* **22**, 4905-4910 (2003).

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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