

# Product Information

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103 USA  
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757  
email: techservice@sial.com sigma-aldrich.com

## Anti-DAP-Kinase 1

produced in rabbit, affinity isolated antibody

Catalog Number **D1319**

### Product Description

Anti-DAP-Kinase 1 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 2-13 of human DAP-kinase 1 (GeneID: 1612), conjugated to KLH via a C-terminal cysteine residue. The corresponding sequence is identical in rat and mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose and further purified by specific absorption on the corresponding ZIP-kinase peptide, to eliminate any possible cross-reaction with the homologous ZIP-kinase protein.

Anti-DAP-Kinase 1 recognizes human DAP-Kinase 1. The antibody may be used in several applications including immunoblotting (~160 kDa) and immunoprecipitation. Detection of the DAP-Kinase 1 band by immunoblotting is specifically inhibited with the immunizing peptide.

Various apoptotic signals, including interferon- $\gamma$ , tumor necrosis factor- $\alpha$ , Fas and activation of c-myc, use Death Associated Protein kinase 1 (DAP-kinase 1 / DAPK1) as a downstream effector in different cell types. DAP-kinase 1 is a positive mediator of apoptosis and is widely expressed in many tissues of embryonic and adult origin.<sup>1-3</sup>

DAP-kinase 1 is a Ca<sup>2+</sup>/calmodulin dependent Ser/Thr kinase that associates with microfilaments. The protein is composed of a multidomain structure. It has a subdomain typical of serine/threonine kinases, a Ca<sup>2+</sup>/calmodulin regulatory domain, eight ankyrin repeats followed by two P-loop motifs and a typical death domain module. It contains two auto-inhibitory domains, one being Ca<sup>2+</sup>/calmodulin dependent. In the absence of the latter domain, DAP-kinase 1 is constitutively active.<sup>2-5</sup> DAP-kinase 1 activity is also regulated by phosphorylation.<sup>6</sup> DAP-kinase 1 was recently identified as a novel tumor suppressor gene. DAP-kinase 1 is frequently inactivated by aberrant promoter methylation in many cancer types and its expression was shown to be a useful molecular marker for cancer prognosis.<sup>7</sup>

### Reagent

Supplied as a solution in 0.01 M PBS, pH 7.4, containing 15 mM sodium azide as preservative.

Antibody concentration: ~ 1.0 mg/mL

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

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

### Product Profile

Immunoblotting: a working concentration of 1-2  $\mu$ g/mL is recommended using whole extracts of human HeLa cells.

Immunoprecipitation: a working amount of 2.5-5.0  $\mu$ g is recommended using extracts of human HeLa cells.

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

### References

1. Deiss, L.P., et al., *Genes Dev.*, **9**, 15-30 (1995).
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6. Shoat, G., et al., *J. Biol. Chem.*, **276**, 47460-47467 (2001).
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