BACKGROUND
Cell cycle events are regulated by the sequential activation and deactivation of cyclin dependent kinases (Cdks) and by proteolysis of cyclins. Chk1 and Chk2 are involved in these processes as regulators of Cdks. Chk1 and Chk2 both function as essential components in the G2 DNA damage checkpoint by phosphorylating Cdc25C in response to DNA damage. Phosphorylation inhibits Cdc25C activity, thereby blocking mitosis. Cdc25A, Cdc25B and Cdc25C protein tyrosine phosphatases function as mitotic activators by dephosphorylating Cdc2p34 on regulatory tyrosine residues. It has also been shown that Chk1 can phosphorylate Wee1
in vitro, providing evidence that the hyperphosphorylated form of Wee1, seen in cells delayed by Chk1 overexpression, is due to phosphorylation by Chk1.

CHROMOSOMAL LOCATION
Genetic locus: CHEK1 (human) mapping to 11q24.2; Chek1 (mouse) mapping to 9A4.

SOURCE
Chk1 (G-4) is a mouse monoclonal antibody raised against amino acids 1-476 representing full length Chk1 of human origin.

PRODUCT
Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CHk1 (G-4) is available conjugated to agarose (sc-8408 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-8408 PE), fluorescein (sc-8408 FITC), Alexa Fluor® 488 (sc-8408 AF488), Alexa Fluor® 546 (sc-8408 AF546), Alexa Fluor® 594 (sc-8408 AF594) or Alexa Fluor® 647 (sc-8408 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8408 AF680) or Alexa Fluor® 790 (sc-8408 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS
Chk1 (G-4) is recommended for detection of Chk1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Chk1 siRNA (h): sc-29269, Chk1 siRNA (m): sc-29270, Chk1 shRNA Plasmid (h): sc-29269-SH, Chk1 shRNA Plasmid (m): sc-29270-SH, Chk1 shRNA (h) Lentiviral Particles: sc-29269-V and Chk1 shRNA (m) Lentiviral Particles: sc-29270-V.

Molecular Weight of Chk1: 56 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, Jurkat whole cell lysate: sc-2204 or C6 whole cell lysate: sc-364373.

STORAGE
Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA

SELECT PRODUCT CITATIONS

RESEARCH USE
For research use only, not for use in diagnostic procedures.

APPLICATIONS (cont.)

| Chk1 (G-4) | Western blot analysis of Chk1 expression in MDA-MB-231 (A), Oli-1 (B), Jurkat (C), MEG-01 (D), HEL 92.1.7 (E) and MOLT-4 (F) whole cell lysates.
| Chk1 (G-4) | Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

Chk1 (G-4): sc-8408.