

Bcr-Abl (b₂a₂ Junction Specific) (L99H4) Mouse mAb

✓ 100 µl
(10 western blots)

Orders ■ 877-616-CELL (2355)
orders@cellsignaling.com
Support ■ 877-678-TECH (8324)
info@cellsignaling.com
Web ■ www.cellsignaling.com

rev. 01/27/11

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

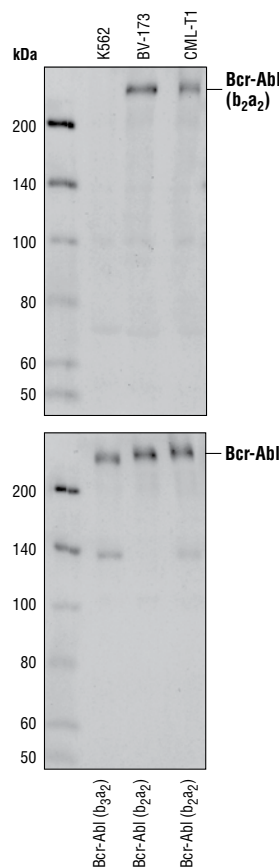
Applications W Endogenous	Species Cross-Reactivity* H	Molecular Wt. 210 kDa	Isotype Mouse IgG2a**
---------------------------------	--------------------------------	--------------------------	--------------------------

Background: The Bcr gene was originally identified by its presence in the chimeric Bcr-Abl oncogene (1). The amino-terminal region of Bcr contains an oligomerization domain, a serine/threonine kinase domain and a region that binds SH2 domains. The middle of the protein has a PH domain and a region of sequence similarity to the guanine nucleotide exchange factors for the Rho family of GTP binding proteins. The carboxy-terminal region may be involved in a GTPase activating function for the small GTP-binding protein Rac (2,3). The function of wild type Bcr in cells remains unclear. PDGF receptor may use Bcr as a downstream signaling mediator (4). The Bcr-Abl fusion results in production of a constitutively active tyrosine kinase, which causes chronic myelogenous leukemia (CML) (5). Tyr177 of Bcr is phosphorylated in the Bcr-Abl fusion protein, which plays an important role in transforming the activity of Bcr-Abl (6). Phosphorylated Tyr177 of Bcr provides a docking site for Gab2 and GRB2 (7,8).

The fusion protein encoded by Bcr-Abl varies in size, depending on the breakpoint in the BCR gene. Three breakpoint cluster regions have been characterized to date: major (M-bcr), minor (m-bcr) and micro (mu-bcr). The overwhelming majority of CML patients have a p210 Bcr-Abl gene (M-bcr), whose mRNA transcripts have a b₃a₂ and/or a b₂a₂ junction. The smallest of the fusion proteins, p190 Bcr-Abl, (m-bcr breakpoint) is principally associated with Ph-positive ALL. Rare cases of CML are due to a p190-type of Bcr-Abl gene and in these, the disease tends to have a prominent monocytic component, resembling CMML. CML resulting from a p230 Bcr-Abl gene (mu-bcr breakpoint) is also rare, and has been associated with the CNL variant and/or with marked thrombocytosis. Exceptional CML cases have been described with Bcr breakpoints outside the three defined cluster regions, or with unusual breakpoints in Abl (9).

Specificity/Sensitivity: Bcr-Abl (b₂a₂ Junction Specific) (L99H4) Specific Mouse mAb detects endogenous levels of Bcr-Abl (b₂a₂) fusion proteins. This antibody does not cross-react with the b₃a₂ isoform of Bcr-Abl.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the b₂a₂ junction site sequence of human Bcr-Abl.



Western blot analysis of cell lysates from various cell lines expressing Bcr-Abl fusion proteins, using Bcr-Abl (b₂a₂ Junction Specific) (L99H4) Mouse mAb (upper) and c-Abl Antibody #2862 (lower).

Tested cell lines: CML-T1, BV-173 (positive) and K562 (negative control)

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-mouse secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

Background References:

- (1) Groffen, J. et al. (1984) *Cell* 36, 93–99.
- (2) Maru, Y. et al. (1991) *Cell* 67, 459–468.
- (3) Che, W. et al. (2001) *Circulation* 104, 1399–1406.
- (4) Abe, J.I. et al. (2001) *Ann. N.Y. Acad. Sci.* 947, 341–343.
- (5) Voncken, J.W. et al. (1995) *Cell* 80, 719–728.
- (6) He, Y. et al. (2002) *Blood* 99, 2957–2968.
- (7) Sattler, M. et al. (2002) *Cancer Cell* 1, 479–492.
- (8) Warmuth, M. et al. (1995) *J. Biol. Chem.* 272, 33260–33270.
- (9) Melo, J.V. (1997) *Baillieres Clin. Haematol.* 10, 203–22.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.