Product Information

Edition: 2013-04-25

Prion protein specific mAb 12B2, mouse monoclonal antibody for detection of prion protein (PrP)

Article number:

12B2/200 for quantity 0.2mg IgG
12B2/500 for quantity 0.5mg IgG

Batch: 051112-PrP-12B2

Shipping: with cool pack

Storage: at 0-5°C ready for use (or aliquot and store at -20°C to avoid repeated freezing/thawing)

Quantity: 0.5mg or 0.2mg IgG (larger quantities on request)

Format: liquid (advice: briefly spin the vial in a centrifuge to dislodge any liquid from the cap)

Concentration: 1.0mg IgG per ml (based on UV280nm measurement with factor 1.43AU@1cm), in PBS pH7.2 as buffer, with 0.02% sodium azide as preservative.

Clone name: 76.12B2

Isotype: IgG1 κ

Purification: purified from culture supernatant by Protein G column chromatograpy, followed by dialysis and 0.2µm membrane filtration.

PrP antigen gene name: Prnp

Immunogen: synthetic peptide with sequence GGGGWGQGGTHGQWNKPSK derived from the amino acid sequence of wild-type bovine PrP (bovinePrP97-115).

Selection: $Prnp^{0/0}$ mice were injected with the immunogen and spleen cells were fused with SP2/0 myeloma cells.

Epitope: WGQGG (bovinePrP101-105; derived by Pepscan analysis and confirmed by blocking the binding to PrP with synthetic peptide).

Expected species (cross) reactivity: broad (no known species differences in epitope sequence; tested on bovine, ovine, caprine, cervid, murine, hamster, bank vole, simian and human TSEs).

Application: as capturing or detecting antibody in prion research on biological samples, body fluids, cells, tissue sections and homogenates. For use in Western blot, IHC, ELISA, RIA, FACS, immunoprecipitation, dot-blot, PET-blot.

Contact :

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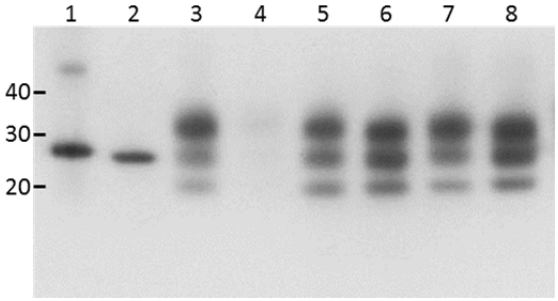
Examples:

Western blot:

PVDF membrane incubated with 0.5µg/ml primary antibody; secundary antibody rabbit anti-mouse Ig alkaline phosphatase; CDP-Star substrate.

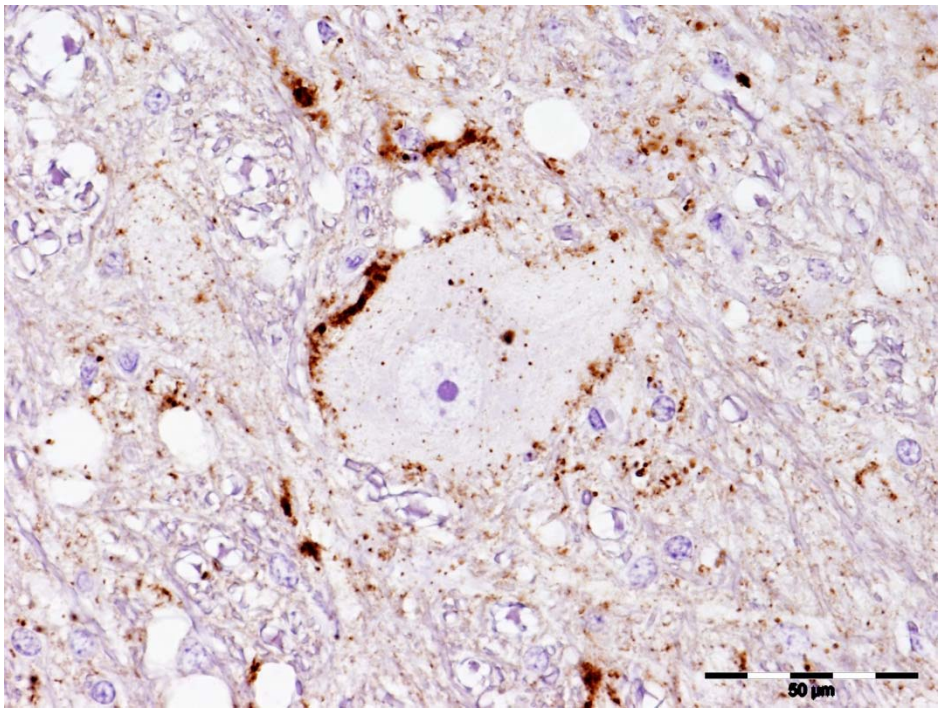


lane	sample	digestion	Amount*	Signal**
1	recombinant E.Coli bovine wt PrP25-242 (6-octarepeats)	No	5ng	++
2	recombinant E.Coli ovine wt PrP25-234 (ARQ)	No	5ng	++
3	classical scrapie ovine brain stem	+PK	0.02mgTE	++
4	C-type BSE in bovine brain stem	+PK	0.1mgTE	-/(+)
5	H-type BSE in bovine brain stem	+PK	0.25mgTE	++
6	CWD in North-American elk brain	+PK	0.5mgTE	++
7	301V in VM murine brain	+PK	0.02mgTE	++
8	ME7 in RIII murine brain	+PK	0.02mgTE	++

*TE= tissue equivalents **See also our sheet with our different PrP-specific antibodies

Immunohistochemistry:

Natural classical scrapie infected ovine brain stem with 0.2µg/ml primary antibody. Bar length is 50 µm. Formalin fixed tissues are routinely dehydrated and processed into paraffin. Tissue sections (4 µm) are mounted on silane coated slides and dried. The sections are deparaffinized in xylene and decreasing gradients of ethanol while the endogenous peroxidase activity is abolished with hydrogen peroxide in methanol. Pretreatment of tissue sections consists of 30 minutes immersion in formic acid followed by 5 minutes autoclaving in citrate solution pH6. After incubation with primary antibody the development takes place with EnVision-PO and DAB, followed by HE staining.



Research Use Only: This product is for Research Use Only and must not be used for diagnostic , therapeutic or manufacturing purposes.

Health, Safety and Waste:

All users of this product must ensure that:

(i) This product's specification is safe for their intended use
(ii) The product is handled in a safe manner using good laboratory practice and in accordance with any relevant local or national regulations pertaining to the use of such products; and
(iii) Any waste originating from the product or its use is disposed of in accordance with any relevant local or national regulations.

References:

First report:

Langeveld JPM, Jacobs JG, Erkens JHF, Bossers A, van Zijderveld FG, van Keulen LJM. 2006. Rapid and discriminatory diagnosis of scrapie and BSE in retro-pharyngeal lymph nodes of sheep. BMC Veterinary Research 2006, 2:19.

Other literature:

- Jacobs, JG, Langeveld JPM, Biacabe A-G, Acutis P-L, Polak M P, Gavier-Widen D, Buschmann A, Caramelli M, Casalone C, Mazza M, Groschup M, Erkens JHF, Davidse A, van Zijderveld FG, Baron T. Molecular discrimination of atypical bovine spongiform encephalopathy strains from a geographical region spanning a wide area in Europe. J Clin Microbiol. 2007, 45:1821-1829.
- Polak Miroslaw P., Zmudzinski Jan F, Jacobs Jorg G,.Langeveld Jan P.M. Atypical status of bovine spongiform encephalopathy in Poland: a molecular typing study. Archiv Virol. 2007, 153:69-79.
- Langeveld JPM, Erkens JHF, Rammel I, Jacobs JG, Davidse A, van Zijderveld F, Bossers A, Schildorfer H. Four independent molecular prion protein parameters for discriminating new cases of C, L, and H BSE in cattle. J Clin Microbiol. 2011, 49:3026–3028.
- Notari S, Capellari S, Langeveld J, Giese A, Strammiello R, Gambetti P, Kretzschmar HA, and Parchi P. A refined method for molecular typing reveals that co-occurrence of PrPSc types in Creutzfeldt-Jakob disease is not the rule. Lab Invest. 2007, 87:1103-1112.
- Moda F, Suardi S, Di Fede G, Indaco A, Limido L, Vimercati C, Ruggerone M, Campagnani I, Langeveld J, Terruzzi A, Brambilla A, Zerbi P, Fociani P, Bishop MT, Will RG, Manson JC, Giaccone G, Tagliavini F. MM2-thalamic Creutzfeldt-Jakob disease: neuropathological, biochemical and transmission studies identify a distinctive prion strain". Brain Pathol. Brain Pathology 22 (2012) 662–669; doi:10.1111/j.1750-3639.2012.00572.x
- Yull HM, Ritchie DL, Langeveld JPM, van Zijderveld FG, Bruce ME, Ironside JW, Head MW. Detection of type 1 prion protein in variant Creutzfeldt-Jakob disease. Am J Pathol. 2006, 168:151-157.
- Yull HM, James Ironside W, Head MW. Further characterisation of the prion protein molecular types detectable in the NIBSC Creutzfeldt-Jakob disease brain reference materials. Biologicals 37 (2009) 210-215.

Animal for immunization:

$PrP^{0/0}$ mice, knock-out for PrP
Büeler H, Fischer M, Lang Y, Bluethmann H, Lipp HP, DeArmond SJ, Prusiner SB, Aguet M, Weissmann C. Normal development and behaviour of mice lacking the neuronal cell-surface PrP protein. Nature. 1992 Apr 16;356(6370):577-82.

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