Prion-Specific Antibodies Produced in Wild-Type Mice - DTU Orbit (08/11/2017)

Prion-Specific Antibodies Produced in Wild-Type Mice

Peptide-specific antibodies produced against synthetic peptides are of high value in probing protein structure and function, especially when working with challenging proteins, including not readily available, non-immunogenic, toxic, and/or pathogenic proteins. Here, we present a straightforward method for production of mouse monoclonal antibodies (MAbs) against peptides representing two sites of interest in the bovine prion protein (boPrP), the causative agent of bovine spongiform encephalopathy ("mad cow disease") and new variant Creutzfeldt-Jakob's disease (CJD) in humans, as well as a thorough characterization of their reactivity with a range of normal and pathogenic (misfolded) prion proteins. It is demonstrated that immunization of wild-type mice with ovalbumin-conjugated peptides formulated with Freund's adjuvant induces a good immune response, including high levels of specific anti-peptide antibodies, even against peptides very homologous to murine protein sequences. In general, using the strategies described here for selecting, synthesizing, and conjugating peptides and immunizing 4-5 mice with 2-3 different peptides, high-titered antibodies reacting with the target protein are routinely obtained with at least one of the peptides after three to four immunizations with incomplete Freund's adjuvant.

General information

State: Published
Organisations: National Veterinary Institute, Section for Immunology and Vaccinology, Technical University of Denmark
Authors: Heegaard, P. M. H. (Intern), Bergström, A. (Ekstern), Andersen, H. G. (Intern), Hvass, H. C. (Intern)
Number of pages: 17
Pages: 285-301
Publication date: 2015
Main Research Area: Technical/natural sciences

Publication information

Journal: Methods in Molecular Biology
Volume: 1348
ISSN (Print): 1064-3745
Ratings:
BFI (2017): BFI-level 1
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 0.76 SJR 0.509 SNIP 0.242
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.548 SNIP 0.272 CiteScore 0.82
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.649 SNIP 0.319 CiteScore 1.02
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.686 SNIP 0.316 CiteScore 1.17
ISI indexed (2013): ISI indexed no
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.699 SNIP 0.369 CiteScore 1.26
ISI indexed (2012): ISI indexed no
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.699 SNIP 0.258 CiteScore 1.17
ISI indexed (2011): ISI indexed no
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.71 SNIP 0.254
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.603 SNIP 0.193
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.574 SNIP 0.257
Scopus rating (2007): SJR 0.633 SNIP 0.181
Scopus rating (2006): SJR 0.599
Scopus rating (2005): SJR 0.484
Scopus rating (2004): SJR 0.362
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 0.424
Scopus rating (2002): SJR 0.44

Scopus rating (2001): SJR 0.403
Scopus rating (2000): SJR 0.324
Scopus rating (1999): SJR 0.209
Original language: English
Monoclonal antibodies, Peptide-carrier protein conjugates, Peptide-specific antibodies, Prion, Synthetic peptide
DOIs:
10.1007/978-1-4939-2999-3_25
Source: FindIt
Source-ID: 2282468789
Publication: Research - peer-review › Journal article – Annual report year: 2015