

GRADE Table 7. What is the risk of serious adverse events following vaccination with inactivated Vero cell-derived JE vaccine?

Population : Immunocompetent individuals

Intervention: Two doses (primary series) of inactivated Vero cell-derived vaccine

Comparison: Placebo/no vaccination/other JE vaccine

Outcome : Serious adverse events

<i>What is the risk of serious adverse events following vaccination with inactivated Vero cell-derived JE vaccine?</i>				
		Rating	Adjustment to rating	
Quality Assessment	No. of studies/starting rating		11 RCTs ¹	4
	Factors decreasing confidence	Limitation in study design	Serious ²	-1
		Inconsistency	None serious	0
		Indirectness	None serious	0
		Imprecision	None serious	0
		Publication bias	None serious	0
	Factors increasing confidence	Large effect	Not applicable	0
		Dose-response	Not applicable	0
		Antagonistic bias and confounding	Not applicable	0
	Final numerical rating of quality of evidence			3
Summary of Findings	Statement on quality of evidence		Evidence supports a moderate level of confidence that the true effect lies close to that of the estimate of effect on health outcome	
	Conclusion		Inactivated Vero cell-derived JE vaccine has an acceptable safety profile. Based on a review of data on IXIARO	

¹Two pooled analyses of 7 clinical studies (N=3558 vaccinated with IXIARO) and 10 clinical studies (N=4,043 vaccinated with IXIARO) have been published. In adults there was comparable tolerability and reactogenicity with placebo (adjuvant alone) and mouse brain-derived JE vaccine except for local reactions. A significantly lower frequency of severe local reactions was reported for IXIARO compared to mouse brain-derived JE vaccine. In a clinical trial of children aged ≥ 2 months to < 1 year in the Philippines, a similar percentage of participants receiving IXIARO (N=131) or Prevnar (N=64) experienced solicited (58.0% vs. 59.4%), unsolicited (72.5% vs. 65.6%), and serious (0% vs. 1.6%) adverse events up to Day 56 after the first vaccination (European Public Assessment Report 2013).

²This vaccine has had limited use outside of clinical trials. Post-marketing data are published for the first 12 months of use (Schuller 2011). The ability to detect less common serious adverse events is limited.

Reference List

Pooled Safety Analyses:

Dubischar-Kastner K, Kaltenboeck A, Klingler A, Jilma B, Schuller E. Safety analysis of a Vero-cell culture derived Japanese encephalitis vaccine, IXIARO (IC51), in 6 months of follow-up. *Vaccine*. 2010 Sep 7;28(39):6463-9.

Schuller E, Klingler A, Dubischar-Kastner K, Dewasthaly S, Müller Z. Safety profile of the Vero cell-derived Japanese encephalitis virus (JEV) vaccine IXIARO®. *Vaccine*. 2011 Nov 3;29(47):8669-76.

Clinical Studies (some only for methods, contributing to pooled analyses)

Eder S, Dubischar-Kastner K, Firbas C, Jelinek T, Jilma B, Kaltenboeck A, Knappik M, Kollaritsch H, Kundi M, Paulke-Korinek M, Schuller E, Klade CS. Long term immunity following a booster dose of the inactivated Japanese Encephalitis vaccine IXIARO®, IC51. *Vaccine*. 2011 Mar 21;29(14):2607-12

European Public Assessment Summary Report, 2013. Available at:

http://www.ema.europa.eu/docs/en_GB/document_library/EPAR_-_Assessment_Report_-_Variation/human/000963/WC500142252.pdf

Kaltenböck A, Dubischar-Kastner K, Schuller E, Datla M, Klade CS, Kishore TS. Immunogenicity and safety of IXIARO (IC51) in a Phase II study in healthy Indian children between 1 and 3 years of age. *Vaccine*. 2010 Jan 8;28(3):834-9

Kaltenböck A, Dubischar-Kastner K, Eder G, Jilg W, Klade C, Kollaritsch H, Paulke-Korinek M, von Sonnenburg F, Spruth M, Tauber E, Wiedermann U, Schuller E. Safety and immunogenicity of concomitant vaccination with the cell-culture based Japanese Encephalitis vaccine IC51 and the hepatitis A vaccine HAVRIX1440 in healthy subjects: A single-blind, randomized, controlled Phase 3 study. *Vaccine*. 2009 Jul 16;27(33):4483-9.

Schuller E, Jilma B, Voicu V, Golor G, Kollaritsch H, Kaltenböck A, Klade C, Tauber E. Long-term immunogenicity of the new Vero cell-derived, inactivated Japanese encephalitis virus vaccine IC51. Six and 12 month results of a multicenter follow-up phase 3 study. *Vaccine*. 2008 Aug 12;26(34):4382-6.

Schuller E, Klade CS, Wöfl G, Kaltenböck A, Dewasthaly S, Tauber E. Comparison of a single, high-dose vaccination regimen to the standard regimen for the investigational Japanese encephalitis vaccine, IC51: a randomized, observer-blind, controlled Phase 3 study. *Vaccine*. 2009 Mar 26;27(15):2188-93.

Tauber E, Kollaritsch H, Korinek M, Rendi-Wagner P, Jilma B, Firbas C, Schranz S, Jong E, Klingler A, Dewasthaly S, Klade CS. Safety and immunogenicity of a Vero-cell-derived, inactivated Japanese encephalitis vaccine: a non-inferiority, phase III, randomised controlled trial. *Lancet*. 2007 Dec 1;370(9602):1847-53.

Tauber E, Kollaritsch H, von Sonnenburg F, Lademann M, Jilma B, Firbas C, Jelinek T, Beckett C, Knobloch J, McBride WJ, Schuller E, Kaltenböck A, Sun W, Lyons A. Randomized, double-blind,

placebo-controlled phase 3 trial of the safety and tolerability of IC51, an inactivated Japanese encephalitis vaccine. *J Infect Dis.* 2008 Aug 15;198(4):493-9.