Hospital General Universitario Gregorio Marañón

Vacunación materna frente a VRS

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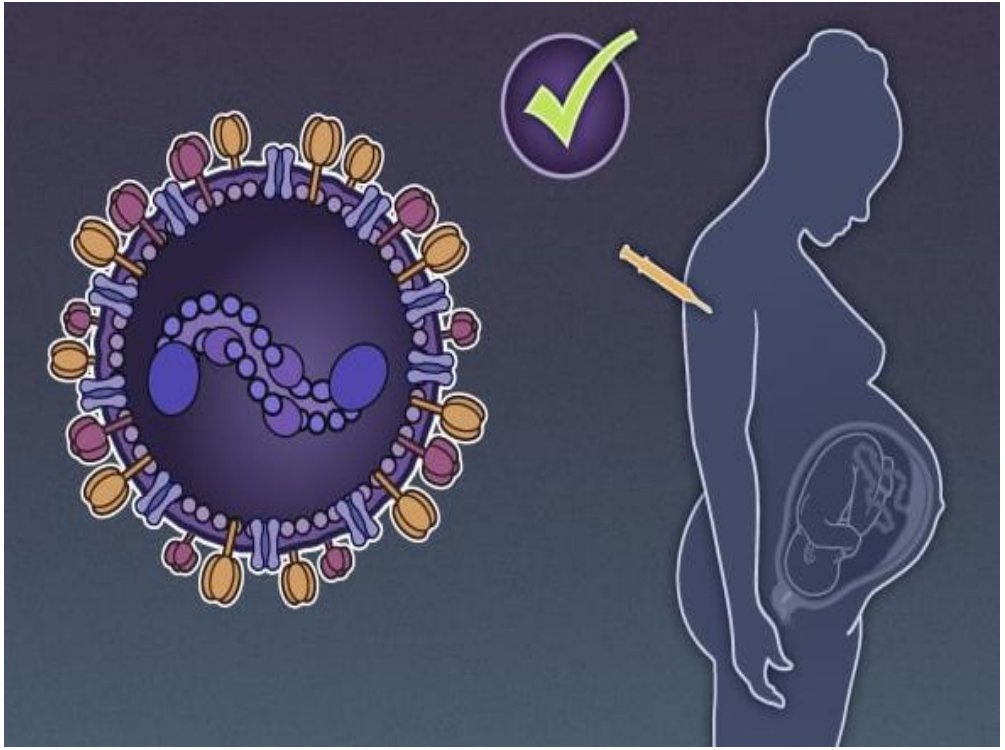
Servicio de Pediatría. Hospital Gregorio Marañón
Marzo 2026

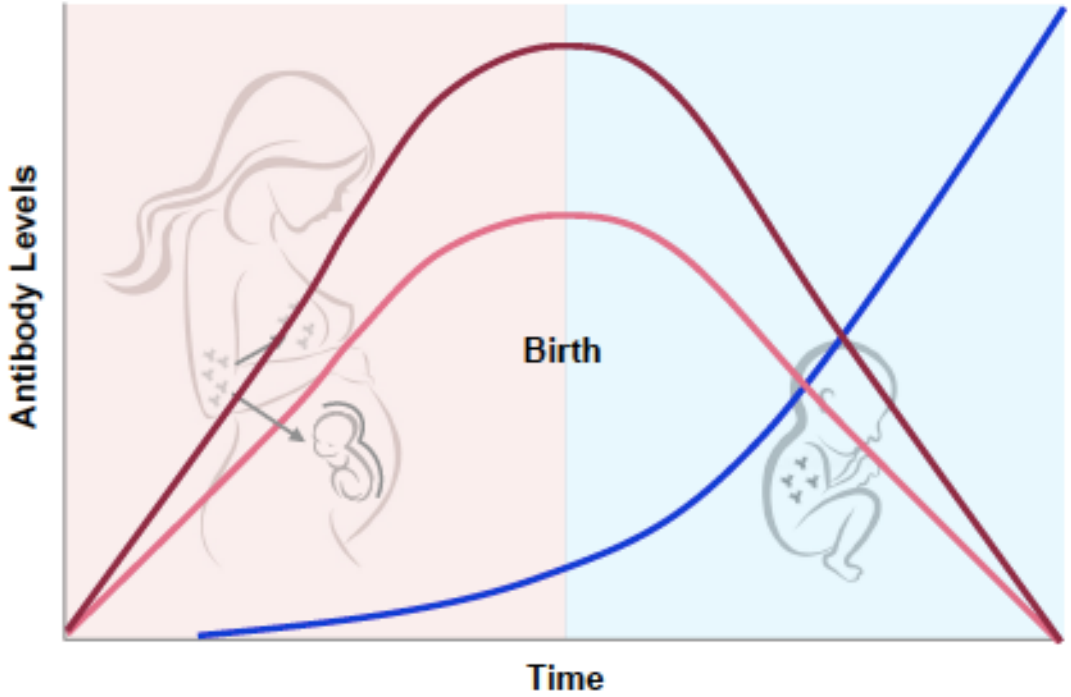
Vacunación materna



Extraído de ref 1

1. The new England Journal of Medicine:Bivalent Prefusion F Vaccine in Pregnancy to Prevent RSV Illness in Infants [Internet] acceso marzo 2025. Disponible en Bivalent Prefusion F Vaccine in Pregnancy to Prevent RSV Illness in Infants | New England Journal of Medicine

La vacunación materna protege al lactante los primeros meses de vida

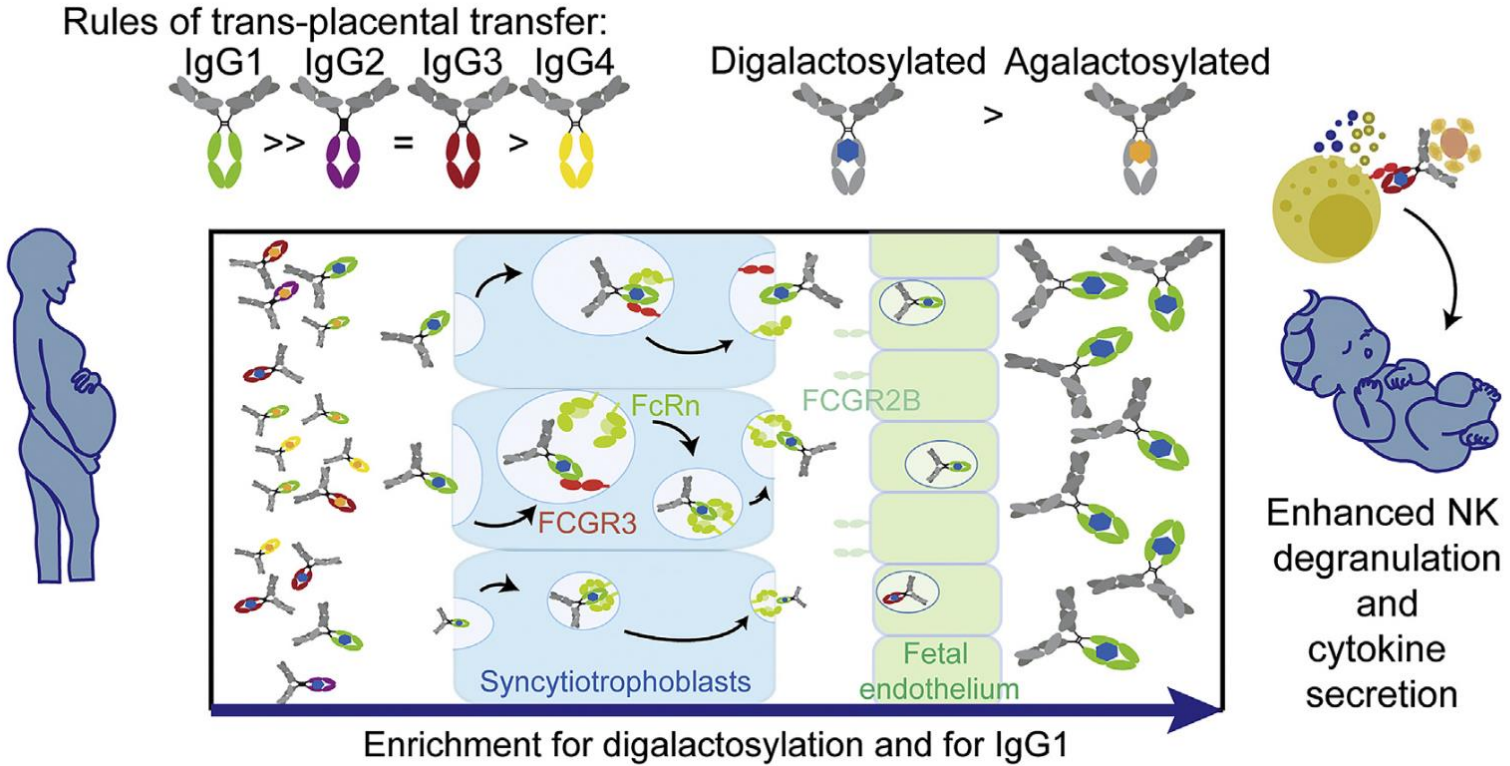


Maternal Antibodies Transferred to Infant
Maturation of Infant Immune System
Maternal Immunization-boosted Maternal Antibodies Transferred to Infant

Creado a partir de referencias 1-3

1. Albrecht, Marie, and Petra Clara Arck. "Vertically Transferred Immunity in Neonates: Mothers, Mechanisms and Mediators." Frontiers in immunology vol. 11 555. 31 Mar. 2020, doi:10.3389/fimmu.2020.00555
2. Marchant, Arnaud et al. "Maternal immunisation: collaborating with mother nature." The Lancet. Infectious diseases vol. 17,7 (2017): e197-e208. doi:10.1016/S1473-3099(17)30229-3
3. Shook, Lydia L et al. "Durability of Anti-Spike Antibodies in Infants After Maternal COVID-19 Vaccination or Natural Infection." JAMA vol. 327,11 (2022): 1087-1089. doi:10.1001/jama.2022.1206

Fc glycan-mediated regulation of placental antibody transfer

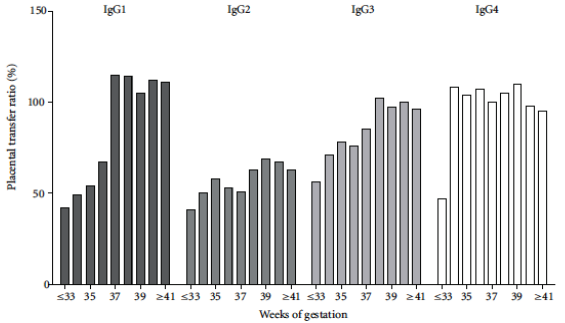


Extraído de Jennewein MF, et al. Cell. 2019;178(1):202-215.e14.

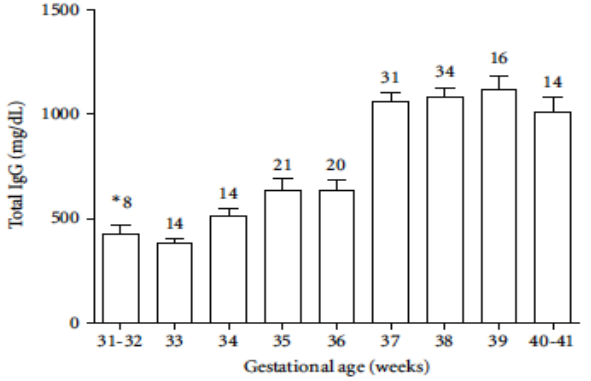
1. Jennewein MF, Goldfarb I, et al. Fc glycan-mediated regulation of placental antibody transfer. Cell. 2019;178(1):202-215.e14.

Factores que modifican el paso trasplacentario de anticuerpos

- Edad gestacional
- Anomalías placentarias
- Infecciones (Malaria, VIH…)
- Intervalo entre la vacunación y el parto
- Niveles de IgG maternos
- IgG subclases: IgG1~IgG3>IgG4>IgG2
- Estado nutricional madre



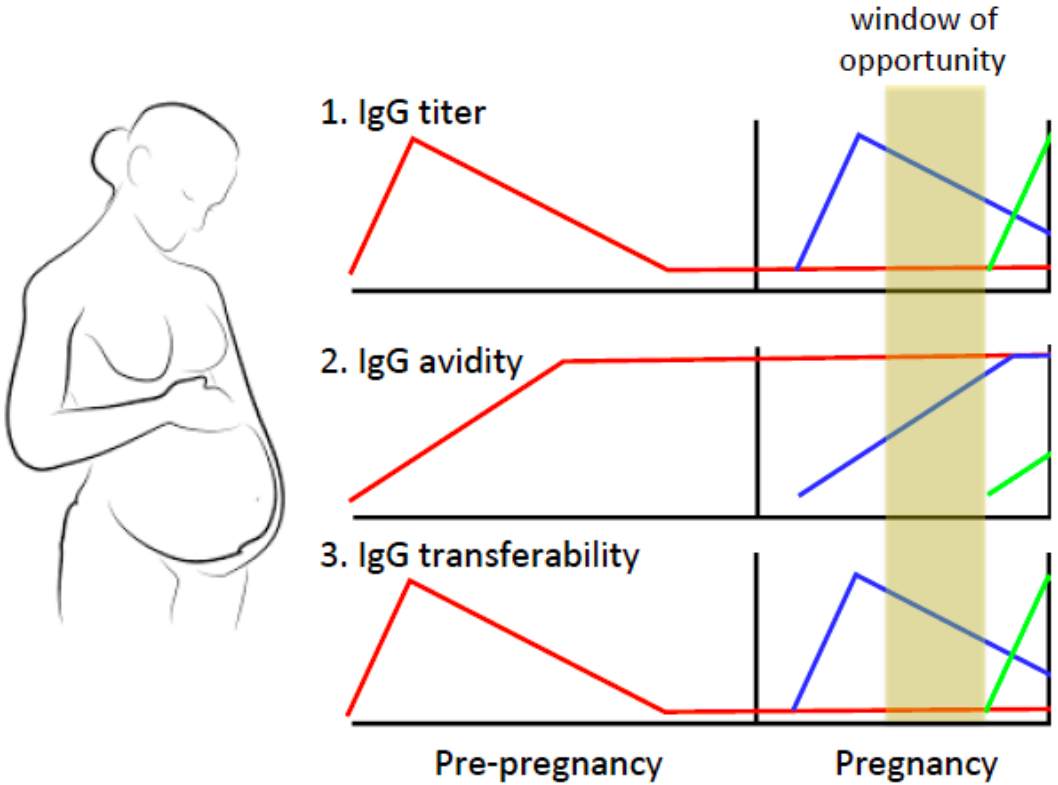
Extraído de Palmeira P, et al. Clin Dev Immunol. 2012;2012:1–13.



Extraído de Palmeira P, et al. Clin Dev Immunol. 2012;2012:1–13.

1. Palmeira P, Quinello C, et al. IgG placental transfer in healthy and pathological pregnancies. Clin Dev Immunol. 2012;2012:1–13.
2. Jones C, Naidoo S, De Beer C, Esser M, Kampmann B, Hesseling A. Maternal HIV infection and antibody responses against vaccine-preventable diseases in uninfected infants. JAMA [Internet]. 2011 [citado el 26 de febrero de 2025];305(6):576–84.

El mejor momento para la vacunación materna

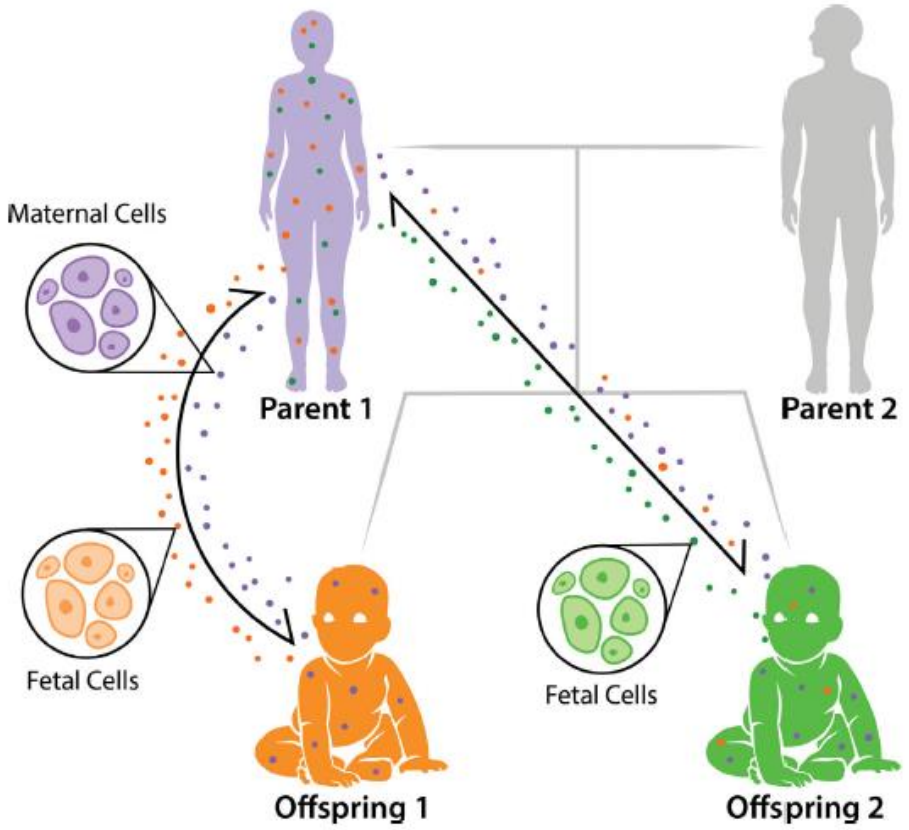


Extraído de ref 1

1. Marchant A, Dauby N, Verhasselt V, Pereira L, Scheifele D, Kollmann TR. Immunobiology of maternal immunization: a landscape analysis [Internet]. Imperial.ac.uk. [citado el 5 de marzo de 2025]. Disponible en: https://spiral.imperial.ac.uk/server/api/core/bitstreams/015a47af-b461-4b30-9a10-d6c015b25f1a/content

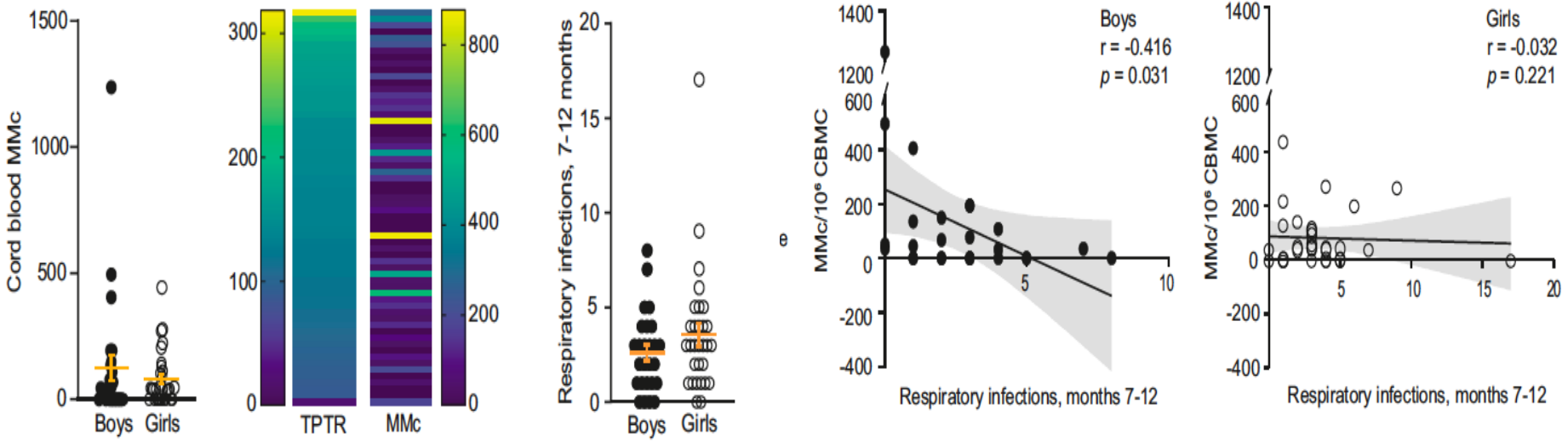
Microquimerismo materno-fetal

Microquimerismo fetal y salud materno-fetal



Boddy A.M. Bioessays. 2015

Células quiméricas en sangre de cordón e infecciones respiratorias



Stelzer I.A. Nature Communications.2021

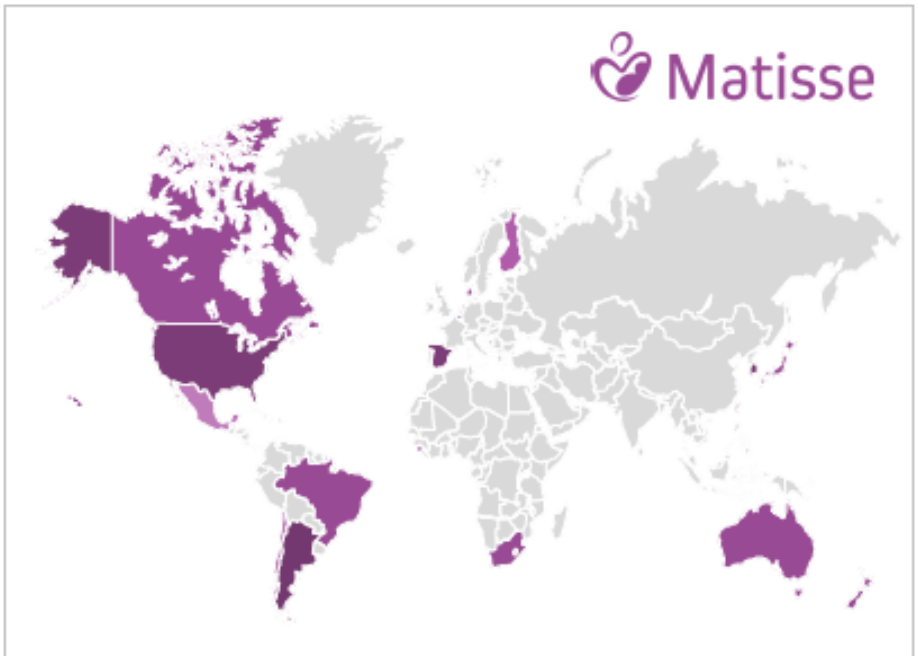
Vacuna materna de PreFusión A y B

MATISSE: A Phase 3 Trial to Evaluate the Efficacy and Safety of RSVpreF in Infants Born to Women Vaccinated During Pregnancy

7,392 Maternal Participants in 18 Countries
Randomized 1:1 RSVpreF 120µg or Placebo

Pregnant persons ≤49 years between ≥24 and ≤36 weeks gestation

7,128 Infants enrolled

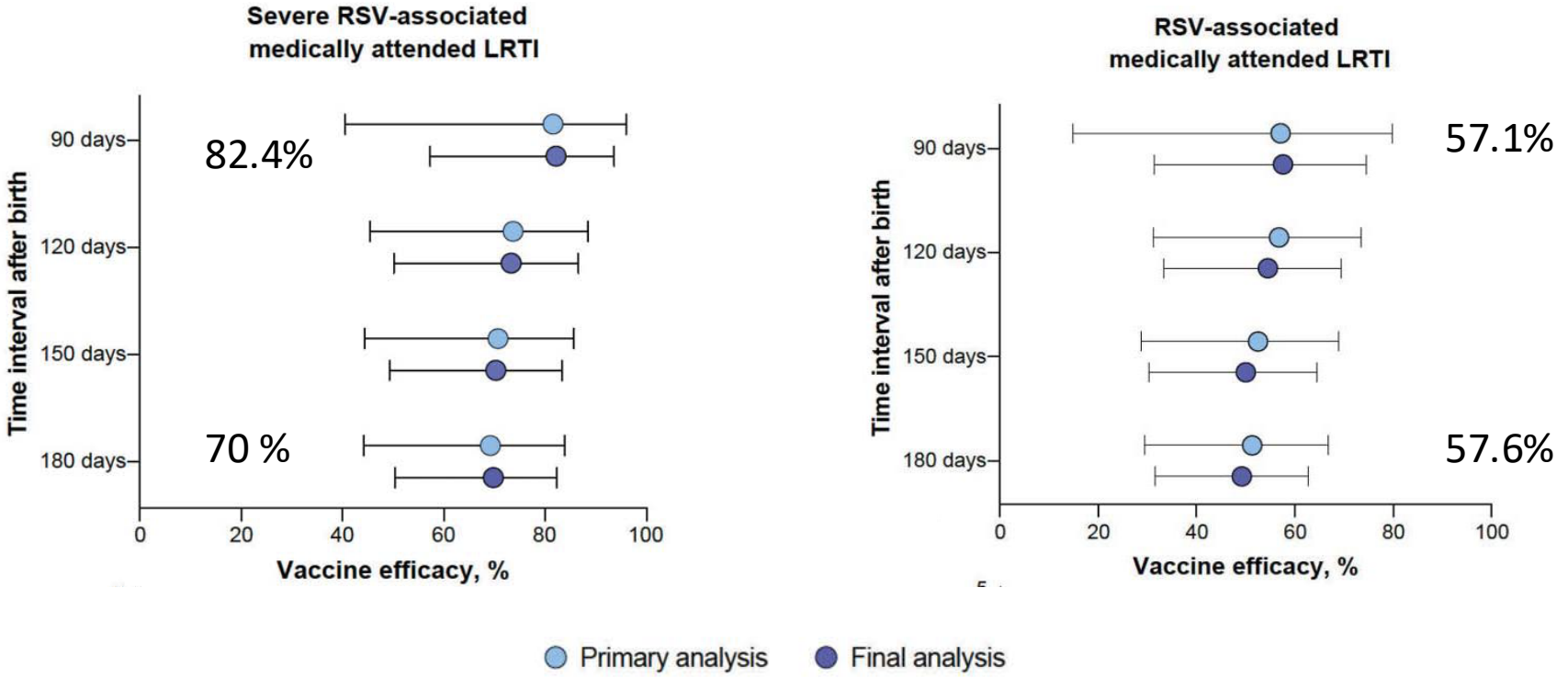


Extraído de Munjal I. Presented at CDC ACIP meeting February 20, 2023.

A Trial to Evaluate the Efficacy and Safety of RSVpreF in Infants Born to Women Vaccinated During Pregnancy. NCT04424316.

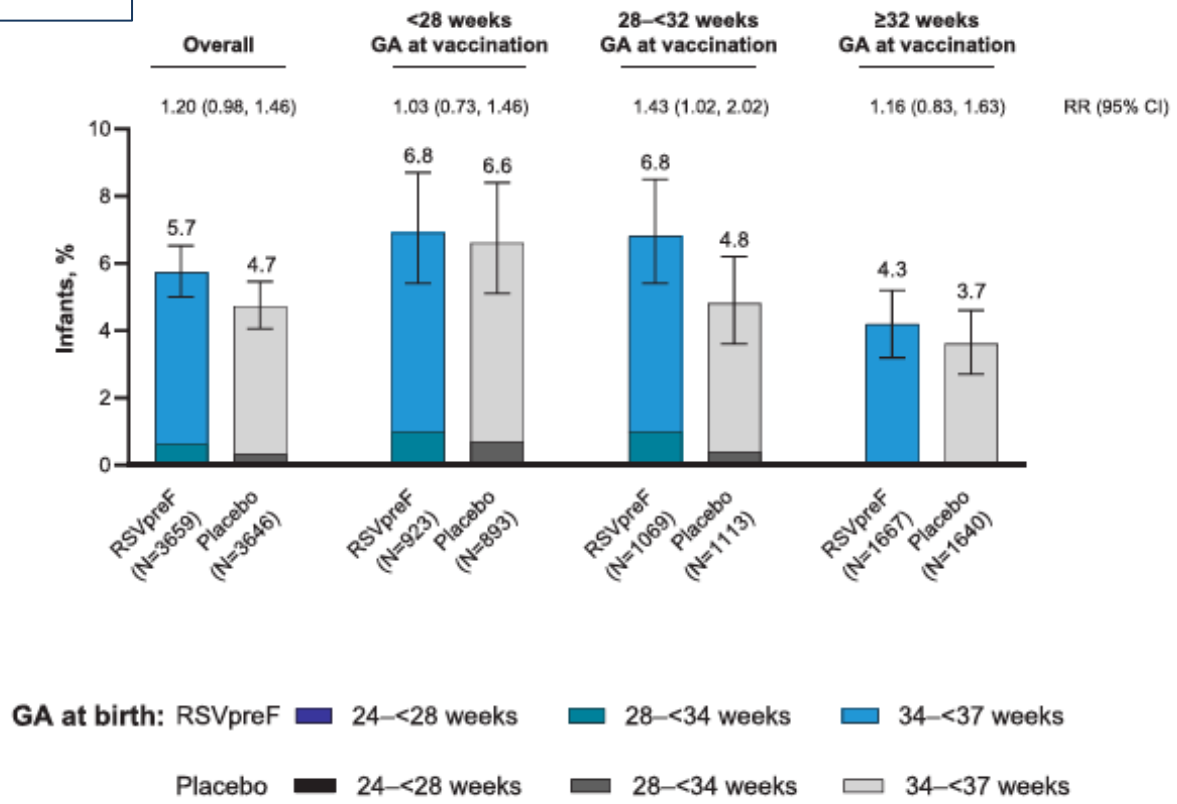
Munjal I. Safety and Efficacy of RSV Bivalent Prefusion F (PreF) Maternal Vaccine. Presented at CDC ACIP meeting February 20, 2023. Disponible en:https://www.cdc.gov/acip/downloads/slides-2023-02-22-24/RSV-Pediatric-06-Munjal-508.pdf .pdf

Eficacia vacunal estudio Mattise en recién nacidos y lactantes



E. Simoes et al Obstet and Gynecol 2025

Prematuridad



Extraído de Madhi SA, et al. Obstet Gynecol. 2025;145(2):147–56.

Madhi SA, Kampmann B, et al. Preterm birth frequency and associated outcomes from the MATISSE (Maternal Immunization Study for Safety and Efficacy) maternal trial of the bivalent respiratory syncytial virus prefusion F protein vaccine. Obstet Gynecol. 2025;145(2):147–56.

¿Interacción con otras vacunas maternas?

Pertussis Component	RSVpreF 120 µg/Tdap GMC (n) (95% CI)[a]	Placebo/Tdap GMC (n) (95% CI)[a]	GMR (95% CI)
Anti-PT	40.47 (135) (34.71, 47.19)	45.90 (134) (37.43, 56.29)	0.80 (0.64, 1.00)
Anti-FHA	119.52 (135) (106.39, 134.27)	191.33 (134) (164.46, 222.59)	0.59 (0.50, 0.70)
Anti-PRN	148.29 (135) (126.01, 174.52)	257.05 (134) (211.55, 312.34)	0.60 (0.48, 0.76)

Extraído de Hong-Nguyen, Y. Presented at: Vaccines and Related Biological Products Advisory Committee Meeting May 18, 2023

¿Intervalo mínimo 2 semanas?

Hong-Nguyen, Y. Review of Efficacy and Safety of Respiratory Syncytial Virus Vaccine (ABRYSVO). Presented at: Vaccines and Related Biological Products Advisory Committee Meeting May 18, 2023 [citado el 26 de febrero de 2025]. Disponible en: https://www.fda.gov/media/168258/download

MATISSE
Phase 3
Final Analysis

RSVpreF neutralizing titers in infants are higher with increased time between maternal vaccination and delivery

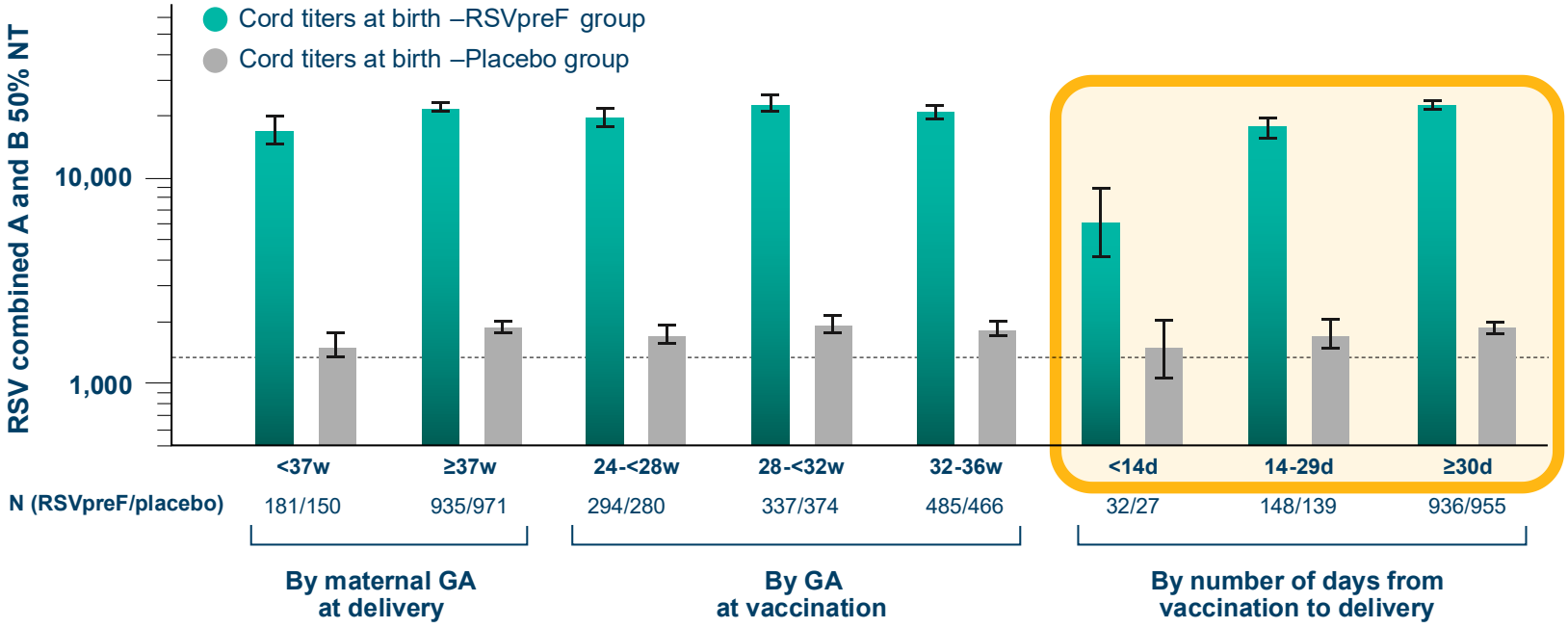
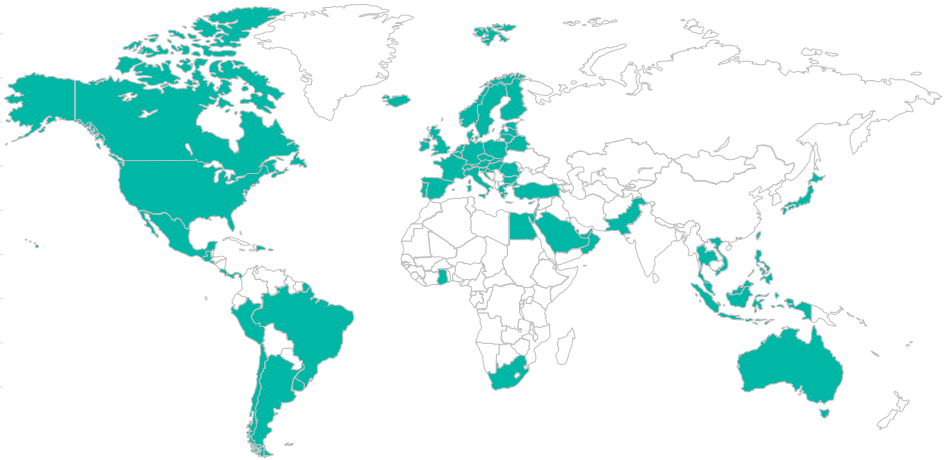


Figure adapted from Simões EAF, et al.

Vacunación materna VRS en mundo real

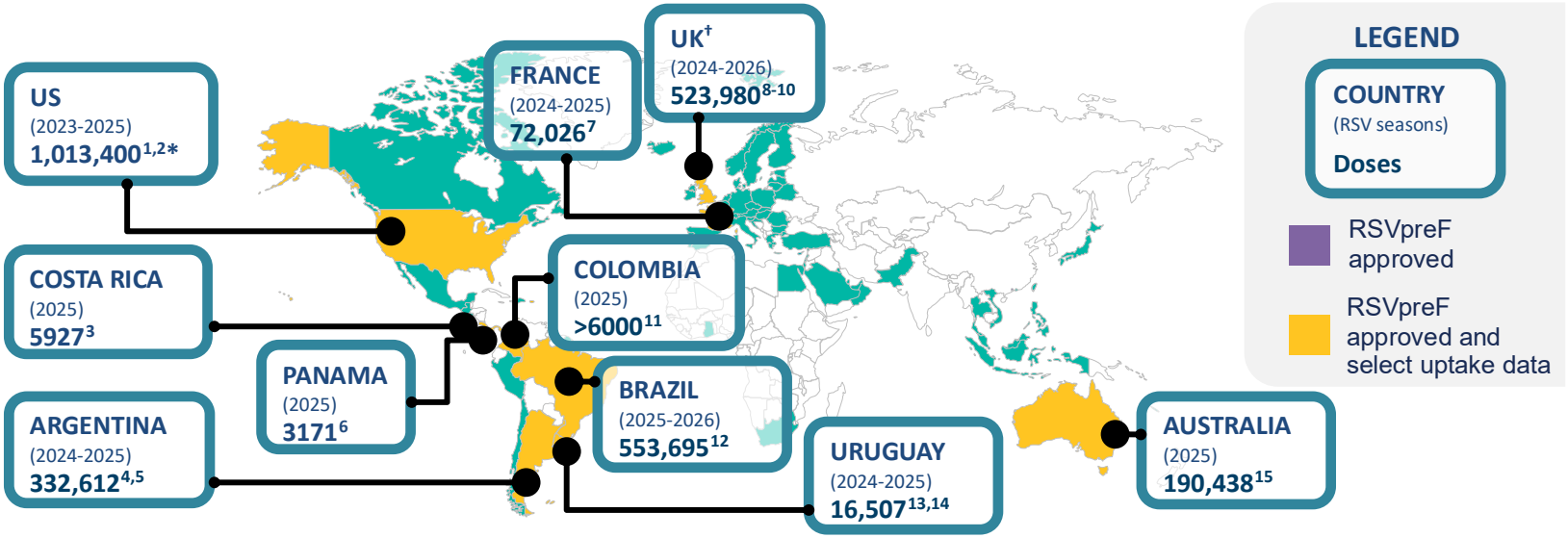
Países con aprobación para el uso vacuna materna PreF VRS

Argentina	Guatemala	Philippines
Australia	Hong Kong SAR	Qatar
Bahrain	Indonesia	Saudi Arabia
Belarus	Israel	Singapore
Brazil	Japan	South Africa
Canada	Kuwait	Switzerland
Chile	Lebanon	Taiwan
Costa Rica	Macau SAR	Thailand
Dominican Republic	Malaysia	Türkiye
Egypt	Mexico	United Arab Emirates
El Salvador	Oman	United Kingdom
European Economic Area (30 countries)*†	Pakistan	United States†
Gambia	Panama	Uruguay
Ghana	Peru	Vietnam



Please consult local country specific license and prescribing information

Casi 3 millones de dosis administradas



Programas de inmunización que incluyen vacuna materna frente a VRS

	Argentina	Uruguay	Australia
Program	• Between 32-36[6/7] weeks of gestation[1] • Seasonal administration[1] • Repeat in each pregnancy[2] • Free of charge[1]	• Between 32-36[6/7] weeks of gestation[3] • Seasonal administration[3] • Free of charge[3]	• From week 28 of gestation[5] • Year-round administration[5] • Funded for all pregnant women[5]
Coverage	2024[3] (Mar-Aug)	2024[3] (Aug-Sep)	2025-2026[6,7] (from Feb 2025)
	Expanded	Expanded	RSV season
	2025[3] (Jan-Oct)	2025[4] (Jan-Sep)	
	147,656 / 184,956	1620 / 14,887	190,438
	Doses	Doses	Doses
	68% / 65%	62% / 71%	~67%*
	Uptake	Uptake	Uptake

World Health Organization. Strategic Advisory Group of Experts on Immunization 23-26 September 2024. Accessed April 2025

Ministerio de Salud República Argentina. Guía Rápihttps://www.argentina.gob.ar/sites/default/files/guia-rapida-vsr.pdf

Sociedad Argentina de Vacunología y Epidemiología. Newsletter Técnico SAVE Octubre 2025.

Uruguay Ministerio de Salud Pública. Vacunación Contra el Virus Respiratorio Sincitial (VRS) 2026.

Australian Government Department of Health, Disability and Ageing. Australian Respiratory Surveillance Report https://www.cdc.gov.au/resources/publications/australian-respiratory-surveillance-report

La experiencia de Reino Unido

UK RSV maternal vaccination Program overview

Program

- From 28 weeks until delivery[2]
- Year round[3]
- Repeat each pregnancy[2]

Vaccine coverage

England[4]	Scotland[5]	Wales[6]
57.8%	51.4%	49.7%

Percent uptake among eligible pregnant women*

Maternal views on RSV vaccination during the first season of implementation in England and Scotland[1†]

Participants who responded "agree" or "strongly agree" to the indicated statements (N=421; Sep 8–Dec 31, 2024)

	Vaccinated	Unvaccinated
Vaccine is necessary	86%	72%
Vaccine was easy to get	81%	36%

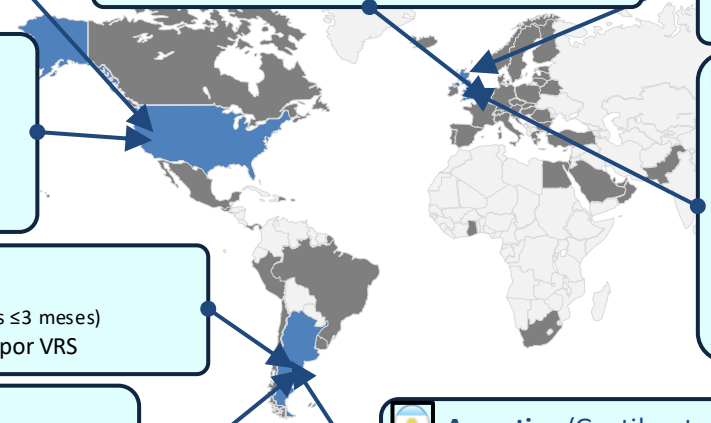
Logistical barriers were an important factor for unvaccinated mothers, despite a desire to receive the RSV maternal vaccine

Williams TC et al. Lancet infect Dis 2025

Public Health Scotland. Vaccination Surveillance. Updated January 8, 2026. https://scotland.shinyapps.io/phs-vaccination-surveillance 6. Public Health Wales. RSV Vaccination Report: Published December 2025. https://phw.nhs.wales/topics/immunisation-and-vaccines/immunisation-surveillance/rsv-vaccination-report-december-2025-summary

UK Health Security Agency. Respiratory syncytial virus (RSV) maternal vaccination coverage in England; https://www.gov.uk/government/publications/rsv-maternal-vaccination-coverage-in-england/respiratory-syncytial-virus-rsv-maternal-vaccination-coverage-in-england-august-2025

Evidencia en mundo real vacunación materna



Estados Unidos (NVSN‡, ACIP)[1]
EV ajustada: 70% (IC 95%: 28-88)[a]
Prevención de la hospitalización por VRS

Estados Unidos (VISION‡, ACIP)[1]
EV ajustada: 79% (IC 95%: 55-90)†
Prevención de la hospitalización por VRS
EV ajustada: 54% (IC 95%: 35-67)†
Prevención de las visitas a urgencias por VRS

Argentina (RIMA)[2]
EV ajustada^: 80,8% (IC 95%: 62,8-90,5) (niños ≤3 meses)
Prevención de la hospitalización por ITRI aguda por VRS

Argentina (BERNI)[3]
EV: 78,6% (IC 95%: 62,1–87,9) (niños 0–90 días)
Prevención de la hospitalización por ETRI
EV: 71,3% (IC 95%: 53,3–82,3) (niños 0–180 días) Prevención de la hospitalización por ETRI

Luxemburgo (Dookhun, et al)[5]
EV: 93,14% (IC 95% 84,07-97,04) (niños <6 meses)
Prevención de la hospitalización por VRS

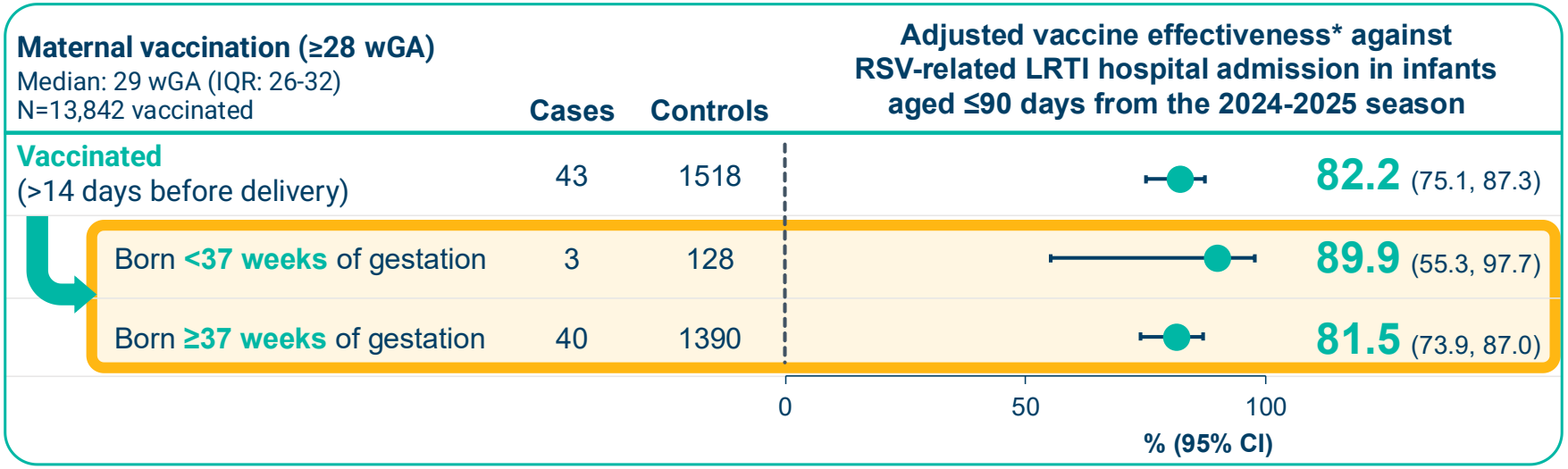
Argentina (Gentile, et al)[4]
EV bruta: 68,2% (IC 95%: 33,1-84,9) (niños <6 meses) Prevención de la hospitalización por VRS
EV ajustada^^: 78,7% (IC 95%: 51,4-90,7) (niños <6 meses)
Prevención de la hospitalización por VRS

Escocia (McLachlan, et al)[6]
EV: 82,2% (IC 95% 75,1–87,3) (niños ≤90 días)
Prevención de la hospitalización por ITRI-VRS

Reino Unido (Williams, et al)[7]
EV ajustada‡: 58% (IC 95%: 28–75)
Prevención de la hospitalización por ETRI-VRS en lactantes nacidos de madres vacunadas en cualquier momento antes del parto
EV ajustada‡: 72% (IC 95%: 48–85)
Prevención de la hospitalización por ETRI-VRS en lactantes nacidos de madres vacunadas >14 días antes del parto

Real-world effectiveness

Scotland: Maternal immunization with RSVpreF demonstrated real-world effectiveness against RSV-related LRTI hospitalizations in preterm infants through the first 3 months of life



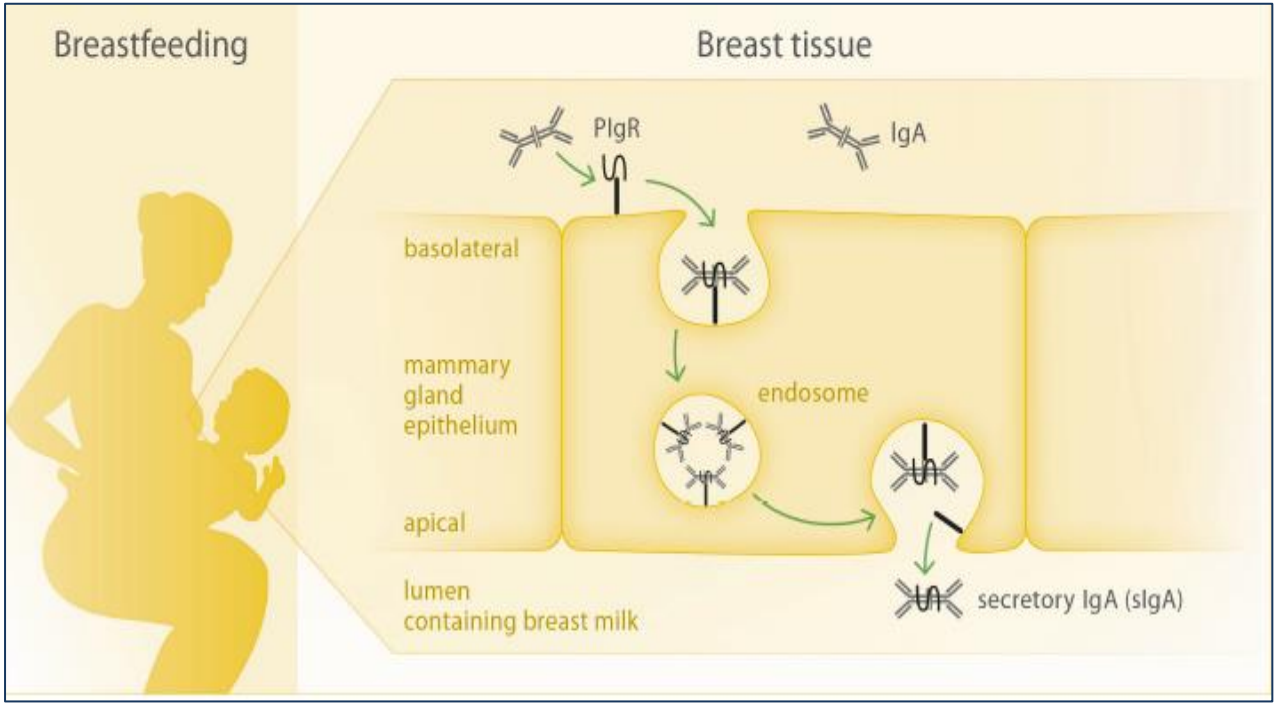
These results indicate protection in preterm infants, a group at increased risk of severe RSV outcomes

McLachlan I et al. Lancet Infect. Dis 2025

Lactancia materna y vacunación

La lactancia materna: protección adicional

- IgA is produced by plasma cells in the mammary gland and undergoes transcytosis for secretion in breast milk
- Increases in IgA in breast milk during neonatal respiratory and intestinal infections suggest that the mother's immune system responds to help protect the infant from specific pathogens in the mother's surrounding environment



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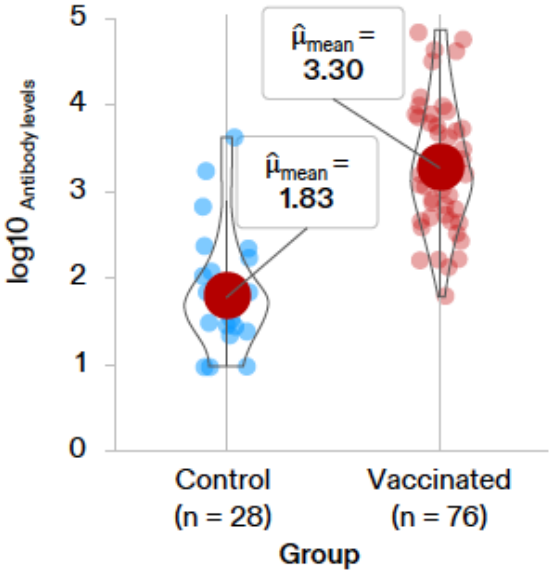
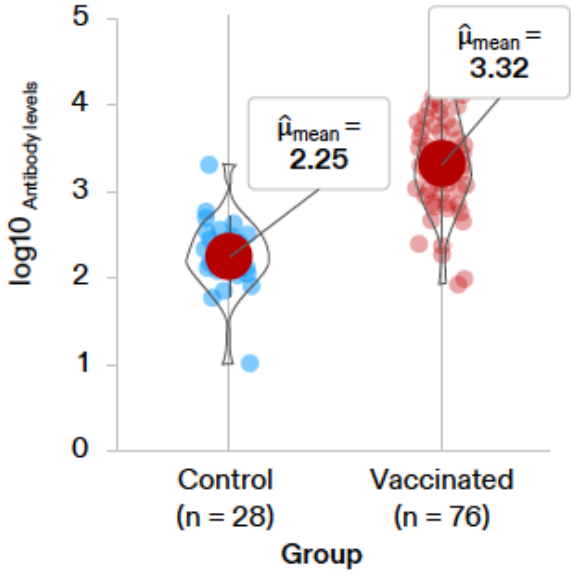
Albrecht M, Arck PC. Front Immunol. 2020;11:555. doi:10.3389/fimmu.2020.00555

Lactancia materna: Anticuerpos frente a PreF VRS-A al mes del parto

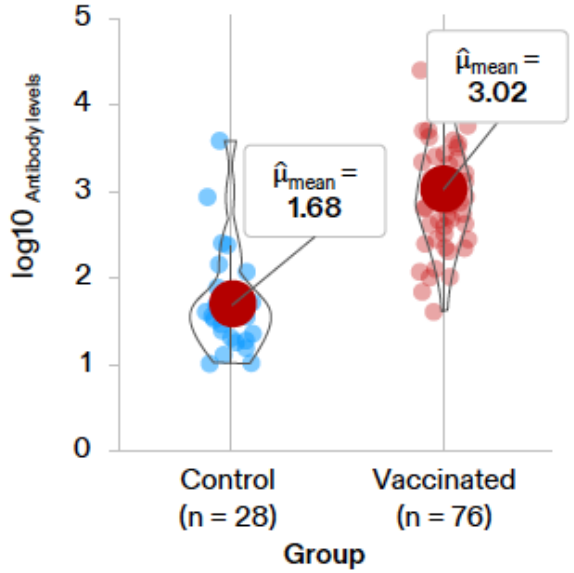
RSV.PreF–A.IgA
p= 1.8e-17, p.adj= 5.5e-17 *



RSV.PreF–A.IgG
p= 5.9e-17, p.adj= 5.9e-17 *



RSV.PreF–A.sAB
p= 7.2e-18, p.adj= 3.6e-17 *



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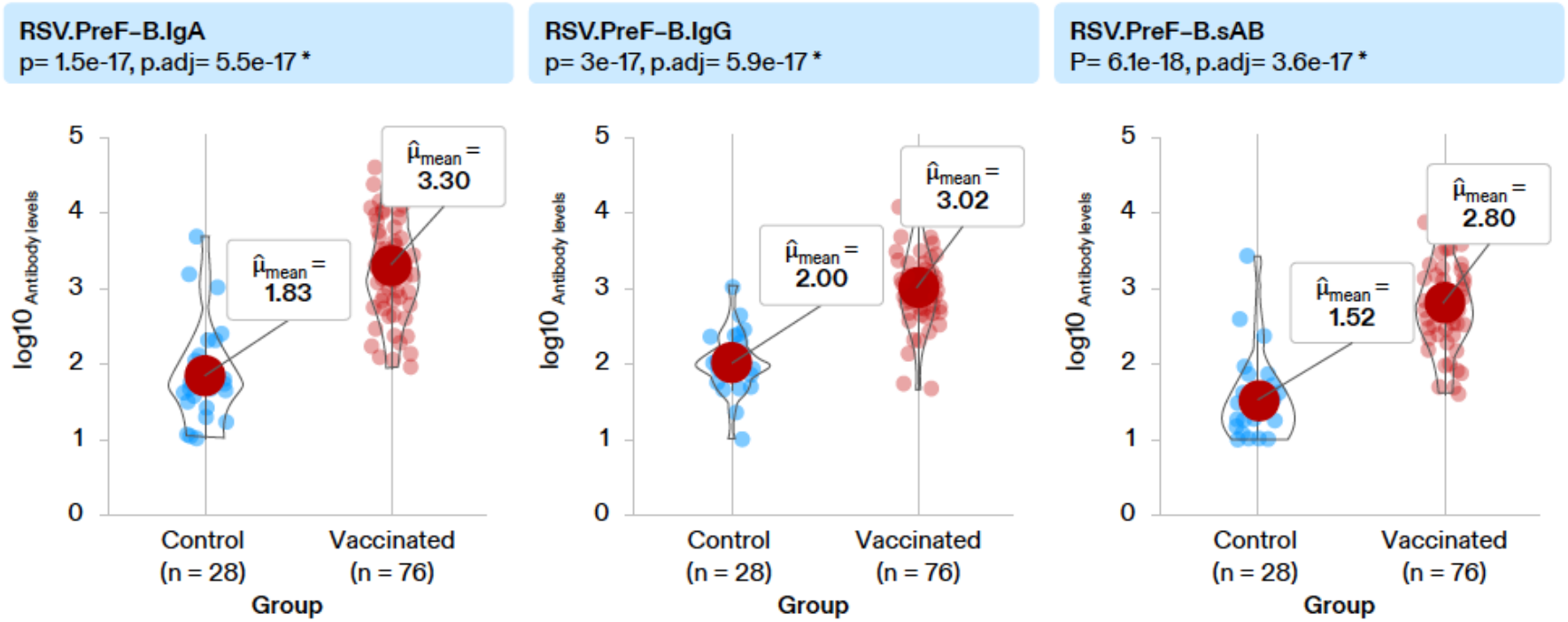
Lactancia materna: Anticuerpos frente a PreF VRS-B al mes del parto



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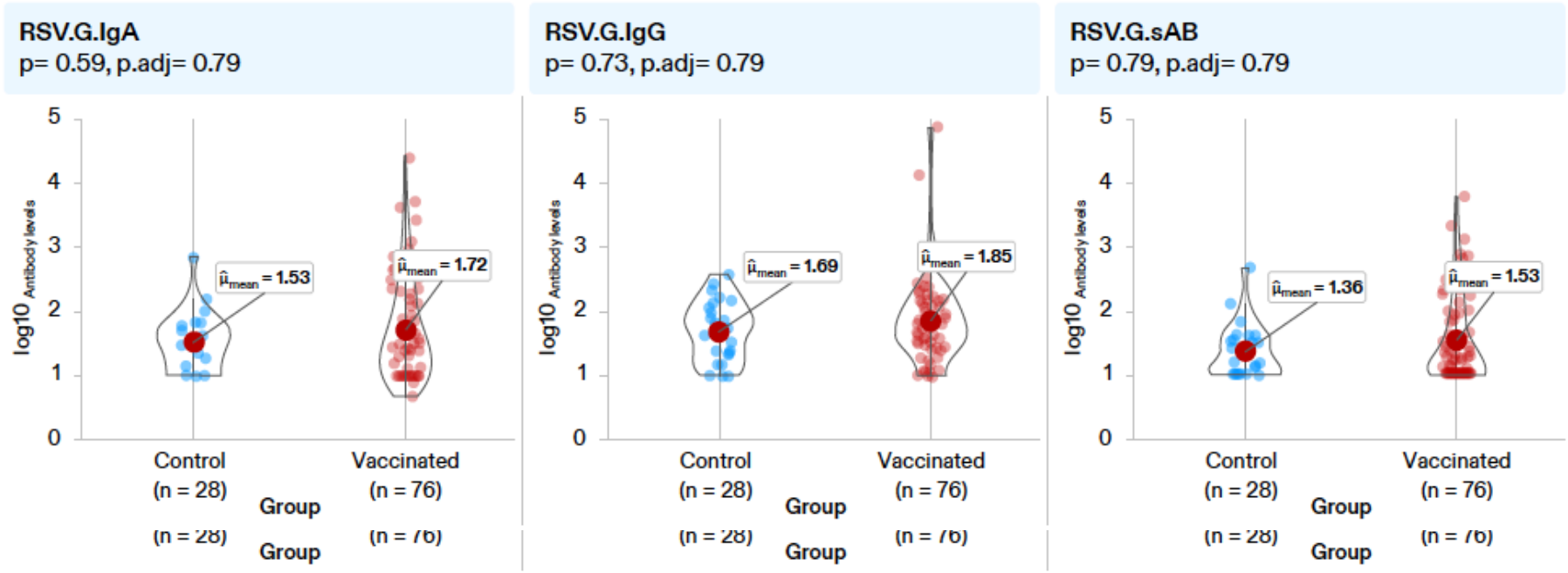
Lactancia materna: Anticuerpos frente a proteína G al mes del parto



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Conclusiones

- El VRS es una de las principales causas de morbilidad en lactantes a nivel mundial
- En el embarazo la protección del recién nacido ocurre mediante la transferencia placentaria de IgG
- La vacunación materna optimiza este mecanismo biológico natural y protege desde el nacimiento
- Es fundamental administrar la vacuna ≥ 14 días antes del parto
- En vida real, la vacunación materna VRS muestra alta efectividad y muy buen perfil de seguridad
- La lactancia materna añade un beneficio inmunológico adicional

Gracias