REAL-WORLD EVIDENCE

Effectiveness of Beyfortus® Against RSV and RSV-Related Events in Infants: BEAR Study

Funded by Sanofi and published in *Pediatrics*

Beyfortus is the **1st long-acting antibody** indicated for the **prevention of RSV lower respiratory tract disease** in[1]:

- Neonates and infants born during or entering their first RSV season
- Children up to 24 months of age who remain vulnerable to severe RSV disease through their second RSV season

BEAR, Beyfortus Effectiveness Against Medically Attended RSV Events in Infants; **RSV**, respiratory syncytial virus.

IMPORTANT SAFETY INFORMATION

Contraindication

Beyfortus is contraindicated in infants and children with a history of serious hypersensitivity reactions, including anaphylaxis, to nirsevimab-alip or to any of the excipients.

Please see additional Important Safety Information throughout this summary and accompanying full Prescribing Information.

Beyfortus® (nirsevimab-alip) | 50 mg 100 mg Injection

Beyfortus® (nirsevimab-alip) Pivotal Trial Data[1-5]

In 2 randomized, placebo-controlled pivotal trials, Beyfortus demonstrated efficacy against MA RSV-LRTI and RSV hospitalization[1-4*†]

In Trial 04, Beyfortus exhibited a reduction in MA RSV-LRTI and RSV hospitalization compared to placebo: healthy term and late preterm infants (≥35 wGA)[1-4]

Trial 04 Primary Cohort[‡§‖]
50 mg IM dose if <5 kg weight, 100 mg IM dose if ≥5 kg weight[1]

Primary endpoint: incidence of MA RSV-LRTI through 150 days post 1 dose[1]

↓74.9% RRR
(95% CI: 50.6, 87.3; *P*<0.001)
Beyfortus: 1.2% (12/994)
Placebo: 5.0% (25/496)

Secondary endpoint: incidence of RSV hospitalization through 150 days post 1 dose[1,2]

↓60.2% RRR
(95% CI: -14.6, 86.2; *P*=0.09)
Beyfortus: 0.6% (6/994)
Placebo: 1.6% (8/496)

Trial 04 Full Study Cohort[§]
50 mg IM dose if <5 kg weight, 100 mg IM dose if ≥5 kg weight[1]

Exploratory post hoc analysis of secondary endpoint:
incidence of RSV hospitalization through 150 days post 1 dose[1-4]

↓76.8% RRR
(95% CI: 49.4, 89.4)
Beyfortus: 0.4% (9/2,009)
Placebo: 2.0% (20/1,003)

CI, confidence interval; **IM**, intramuscular; **MA RSV-LRTI**, medically attended respiratory syncytial virus lower respiratory tract infection; **RRR**, relative risk reduction; **wGA**, weeks gestational age.

Signs of LRTI involvement included rhonchi, rales, crackles, or wheezing and at least one sign of worsening clinical severity, including at least one of the following: increased respiratory rate, hypoxemia, acute hypoxic or ventilatory failure, new onset apnea, nasal flaring, retractions, grunting, or dehydration due to respiratory distress.[1]

*Results of Trials 04 and 03 for infants entering their first RSV season.[1]
†RSV hospitalization was defined as hospitalization for LRTI with a positive RSV test.[1]
‡Primary Cohort: 1,490 healthy term and late preterm infants (≥35 wGA) in Trial 04.[1]
§During Trial 04, the COVID-19 pandemic interrupted trial enrollment. The efficacy analysis is based on the Primary Cohort, which included those participants enrolled prior to the pause due to COVID-19. Trial 04 continued monitoring the Primary Cohort and included an additional 1,522 subjects enrolled after the pause to comprise the full study cohort. The full study cohort included 3,012 infants randomized to receive Beyfortus or placebo in the post hoc analysis.[4]
‖Efficacy for MA RSV-LRTI based on RRR against placebo adjusted for age at randomization.[1]

IMPORTANT SAFETY INFORMATION (cont'd)
Warnings and Precautions

- **Hypersensitivity Reactions Including Anaphylaxis:** Serious hypersensitivity reactions have been reported following Beyfortus administration. These reactions included urticaria, dyspnea, cyanosis, and/or hypotonia. Anaphylaxis has been observed with human immunoglobulin G1 (IgG1) monoclonal antibodies. If signs and symptoms of anaphylaxis or other clinically significant hypersensitivity reactions occur, initiate appropriate treatment.

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In Trial 03, Beyfortus® exhibited a reduction in MA RSV-LRTI and RSV hospitalization compared to placebo: healthy preterm infants (≥29 to <35 wGA)[1,2,5]

Trial 03*†
50 mg IM dose regardless of weight[1]

Primary endpoint: incidence of MA RSV-LRTI through 150 days post 1 dose[1]

↓70.1% RRR
(95% CI: 52.3, 81.2; *P*<0.001)
Beyfortus: 2.6% (25/969)
Placebo: 9.5% (46/484)

Secondary endpoint: incidence of RSV hospitalization through 150 days post 1 dose[1,5]

↓78.4% RRR
(95% CI: 51.9, 90.3; *P*<0.001)
Beyfortus: 0.8% (8/969)
Placebo: 4.1% (20/484)

Trial 03 Post Hoc Analysis[‡]
Subgroup of infants <5 kg receiving 50 mg IM dose[1]

Exploratory post hoc analysis of primary endpoint:
incidence of MA RSV-LRTI through 150 days post 1 dose[1,2]

↓86.2% RRR
(95% CI: 68.0, 94.0)
Beyfortus: 1.2% (7/570)
Placebo: 9.0% (26/290)

This subgroup included 860 infants weighing <5 kg who were randomized to receive 50 mg IM dose of Beyfortus (coinciding with the approved weight-based dose) or placebo.

The most common adverse reactions reported at an incidence higher than placebo in the Safety Population (Trial 04 and Trial 03) were rash (0.9%) and injection site reactions (0.3%)[1§]

Trial 04 and Trial 03 were pooled to evaluate the safety of Beyfortus (N=2,570) compared to placebo (N=1,284).[1]

- Adverse reactions were reported in 1.2% of infants who received Beyfortus; most (97%) of adverse reactions were mild to moderate in severity

*1,453 preterm infants (≥29 to <35 wGA) in Trial 03.[1]
†Efficacy for MA RSV-LRTI based on RRR against placebo adjusted for age at randomization and hemisphere.[1]
‡860 infants from the full study cohort of 1,453 healthy preterm infants in Trial 03 were analyzed in a post hoc analysis. For infants in their first RSV season, the recommended dose is 50 mg for infants <5 kg or 100 mg for infants ≥5 kg via IM injection.[1,2]
§The Safety Population includes all infants who received the recommended dose of Beyfortus in Trials 04 and 03: Primary and Safety cohorts from Trial 04; infants who weighed <5 kg and who received the recommended dose of Beyfortus (single 50 mg IM dose) in Trial 03.[1]

Beyfortus® (nirsevimab-alip) 50 mg 100 mg Injection

BEAR Study[6]

Beyfortus® was associated with a reduction in MA RSV-LRTI and RSV hospitalization in healthy term US infants (aged <8 months and born at ≥37 wGA)[6]

	BEAR Study Design[1,6]
Study population	**Healthy term infants <8 months (≥37 wGA) born on or after April 1, 2023, without underlying conditions increasing risk of RSV disease, during the 2023-2024 RSV season,** who were eligible for Beyfortus at Kaiser Permanente Northern California (KPNC)
Number of subjects	N=31,900 (Beyfortus n=15,647, untreated n=16,253)
Study design	Observational, retrospective cohort study of the 2023-2024 RSV season. Beyfortus was routinely administered beginning October 19, 2023*
Single Beyfortus IM dose	50 mg IM if <5 kg weight, 100 mg IM if ≥5 kg weight
Key assessments	**Co-primary endpoints:** • First episode of PCR-confirmed RSV-LRTI during the RSV season† • Healthcare utilization as measured by the total number of medical encounters related to each RSV-LRTI episode‡ **Post hoc analysis:** • RSV hospitalization§

PCR, polymerase chain reaction.

*Eligible infants born on or after this date were offered the treatment before discharge, during urgent care visits, or at outpatient well-child appointments. Eligible infants born prior to this date were contacted by KPNC as part of routine care for catch-up dosing in outpatient clinics.[6]

†An episode is defined as having at least 1 LRTI-associated encounter in any setting in the 7 days before, and up to 10 days after a positive RSV PCR test.[6]

‡Each medical encounter was categorized as outpatient, emergency department, inpatient, or intensive care unit.[6]

§Episodes that included at least 1 hospitalization were considered a hospitalized RSV-LRTI.[6]

IMPORTANT SAFETY INFORMATION (cont'd)

Warnings and Precautions (cont'd)

- **Use in Individuals with Clinically Significant Bleeding Disorders:** As with other IM injections, Beyfortus should be given with caution to infants and children with thrombocytopenia, any coagulation disorder or to individuals on anticoagulation therapy.

Most common adverse reactions with Beyfortus were rash (0.9%) and injection site reactions (0.3%).

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BEAR study results

Co-primary endpoints[6,7]

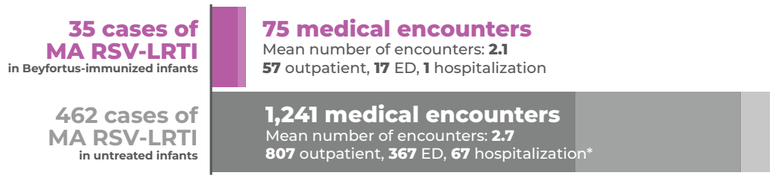
Estimated effectiveness against MA RSV-LRTI

↓87.2%

(95% CI: 81.7, 91.1)

Beyfortus® (35/15,647)
Untreated (462/16,253)

Total RSV-LRTI medical encounters related to RSV-LRTI episodes



Post hoc analysis[6,7]

Estimated effectiveness against RSV hospitalization

↓98%

(95% CI: 85.1, 99.7)

Beyfortus (1/15,647)
Untreated (65/16,253)

The findings in this analysis are subject to limitations[6]:

- Investigators were unable to assess how soon RSV-LRTI protection occurs after receiving Beyfortus because few cases occurred within 7 days
- Although KPNC performs a large amount of PCR testing, investigators did not quantify what proportion of infants with respiratory symptoms were tested, so testing biases among RSV-positive infants were possible
- As an observational study, unmeasured confounders that increase one's risk of RSV (eg, lower socioeconomic status, having siblings, and/or daycare attendance) could affect results
- The analysis population of healthy term infants may not be generalizable to infants at higher risk of RSV-LRTI
- While KPNC has a large and diverse population, the study population may not be representative of other health systems' populations

ED, emergency department.

*There were 2 untreated infants who had 2 hospitalizations each during their RSV-LRTI episodes with a total of 67 hospitalizations across all 65 RSV-LRTI episodes.[7]

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Contact your Sanofi representative to access additional real-world evidence studies, or visit **Beyfortus.com** for more information

Scan to read the study in *Pediatrics*

INDICATION

Beyfortus is indicated for the prevention of respiratory syncytial virus (RSV) lower respiratory tract disease in:

- Neonates and infants born during or entering their first RSV season.
- Children up to 24 months of age who remain vulnerable to severe RSV disease through their second RSV season.

IMPORTANT SAFETY INFORMATION

Contraindication

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Warnings and Precautions

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- **Use in Individuals with Clinically Significant Bleeding Disorders:** As with other IM injections, Beyfortus should be given with caution to infants and children with thrombocytopenia, any coagulation disorder or to individuals on anticoagulation therapy.

Most common adverse reactions with Beyfortus were rash (0.9%) and injection site reactions (0.3%).

Please see accompanying full Prescribing Information.

References: 1. Beyfortus (nirsevimab-alip). Prescribing Information. Sanofi. **2.** Data on File. Sanofi. **3.** Muller WJ, Madhi SA, Nuñez BS, et al; MELODY Study Group. Nirsevimab for prevention of RSV in term and late-preterm infants. *N Engl J Med*. 2023;388(16):1533-1534. **4.** Muller WJ, Madhi SA, Nuñez BS, et al; MELODY Study Group. Nirsevimab for prevention of RSV in term and late-preterm infants. *N Engl J Med*. 2023;388(16)(suppl):1533-1534. **5.** Griffin MP, Yuan Y, Takas T, et al. Single-dose nirsevimab for prevention of RSV in preterm infants. *N Engl J Med*. 2020;383(5):415-425. **6.** Hsiao A, Hansen J, Fireman B, et al. Effectiveness of nirsevimab against RSV and RSV-related events in infants. *Pediatrics*. 2025;156(2):e2024069510. **7.** Hsiao A, Hansen J, Fireman B, et al. Effectiveness of nirsevimab against RSV and RSV-related events in infants. *Pediatrics*. 2025;156(2)(suppl):e2024069510.

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