SUPPLEMENTARY MATERIAL

Table S1. Detailed asthma and rhinitis characteristics across visits of patients in the analysis population (n=1,483).

Parameters	Patients having completed V1 (N=1,483)	Patients having completed V2 (N=1,210)	Patients having completed V3 (N=793)	Patients having completed V4 (N=852)
Age (years), Mean (SD)	34.2 (11.5)	34.6 (11.6)	35.3 (11.9)	35.2 (11.6)
, n (%)				
Male	616 (41.5)	501 (41.4)	332 (41.9)	365 (42.8)
Female	867 (58.5)	709 (58.6)	461 (58.1)	487 (57.2)
Allergy history	**1483**	**1210**	**793**	**852**
At least one allergy (other than HDM), n (%)	970 (65.4)	794 (65.6)	501 (63.2)	550 (64.6)
At least one respiratory allergy (other than HDM), n (%)	943 (63.6)	771 (63.7)	489 (61.7)	537 (63.0)
At least one food allergy, n (%)	82 (5.5)	69 (5.7)	43 (5.4)	49 (5.8)
FEV1 results (%) of predicted value, (among patients with lung function tests), N	**763**	**623**	**397**	**424**
Mean (SD)	98.5 (14.1)	97.7 (14.3)	97.9 (14.3)	98.3 (14.3)
Rhinitis symptomatic medication (antihistamines and/or corticosteroids (nasal)) during the last 12 months, N	**1,483**	**1,210**	**793**	**852**
Yes, n (%)	1,414 (95.3)	1,156 (95.5)	764 (96.3)	812 (95.3)
Evaluation of the rhinitis according to ARIA 2010, N	**1,478**	**1,209**	**793**	**851**
Intermittent mild, n (%)	82 (5.5)	68 (5.6)	39 (4.9)	43 (5.1)
Intermittent moderate-severe, n (%)	88 (6.0)	65 (5.4)	30 (3.8)	41 (4.8)
Persistent mild, n (%)	83 (5.6)	63 (5.2)	31 (3.9)	39 (4.6)
Persistent moderate-severe, n (%)	1,225 (82.9)	1,013 (83.8)	693 (87.4)	728 (85.5)
Among patients with clinical asthma	**499**	**409**	**249**	**272**
Asthma severity according to GINA 2017, at baseline, N	**498**	**409**	**249**	**272**
No asthma medication, n (%)	46 (9.2)	39 (9.5)	20 (8.0)	26 (9.6)
GINA - Step 1, n (%)	122 (24.5)	93 (22.7)	57 (22.9)	58 (21.3)
GINA - Step 2, n (%)	68 (13.7)	52 (12.7)	29 (11.6)	34 (12.5)
GINA - Step 3, n (%)	211 (42.4)	178 (43.5)	114 (45.8)	126 (46.3)
GINA - Step 4, n (%)	49 (9.8)	45 (11.0)	28 (11.2)	27 (9.9)
GINA - Step 5, n (%)	2 (0.4)	2 (0.5)	1 (0.4)	1 (0.4)

Parameters	Patients having completed V1 (N=1,483)	Patients having completed V2 (N=1,210)	Patients having completed V3 (N=793)	Patients having completed V4 (N=852)
Asthma control according to GINA 2017, N	**494**	**405**	**247**	**269**
Well controlled, n (%)	266 (53.8)	219 (54.1)	130 (52.6)	146 (54.3)
Partly controlled, n (%)	138 (27.9)	112 (27.7)	70 (28.3)	81 (30.1)
Uncontrolled, n (%)	90 (18.2)	74 (18.3)	47 (19.0)	42 (15.6)
Patient having experienced severe exacerbation in the last 12 months, N	**499**	**409**	**249**	**272**
Yes, n (%)	20 (4.0)	18 (4.4)	13 (5.2)	13 (4.8)

ARIA= Allergic Rhinitis and its Impact on Asthma; BMI= Body Mass Index; GINA= Global Initiative for Asthma; HDM= House Dust Mite; SD= Standard Deviation.

Table S2. Univariate analysis. Variable of interest: ISI score improvement [change $\geq$ MCID$_{ISI}$] vs. no improvement [change $<$ MCID$_{ISI}$], V1 versus V4.

Variable	N used	OR [95% CI]	p-value
Age (at inclusion) (using the quartiles)	**N=180**		**0.0158**
$\leq$ Q1: 26		1.00	
]Q1: 26; Median: 33]		2.25 [0.97 ; 5.25]	
]Median: 33; Q3: 41]		2.36 [0.99 ; 5.62]	
> Q3: 41		0.74 [0.30 ; 1.87]	
Sex	**N=180**		**0.2971**
Male		1.00	
Female		1.38 [0.75 ; 2.54]	
BMI classes (at inclusion)	**N=176**		**0.7820**
Underweight (<18.5)		1.00	
Normal (healthy) weight ([18.5; 25[)		2.04 [0.48 ; 8.57]	
Overweight ([25.0; 30[)		1.81 [0.40 ; 8.26]	
Obese ($\geq$30)		1.64 [0.32 ; 8.45]	
Smoking habits (at inclusion)	**N=180**		**0.4823**
Non-smoker		1.00	
Previous smoker		2.83 [0.85 ; 9.44]	
Active smoker (+ occasional smoking)		0.79 [0.29 ; 2.20]	
Passive smoker		0.57 [0.05 ; 6.38]	
At least one respiratory allergy (other than HDM respiratory allergies)	**N=180**		**0.6508**
No		1.16 [0.61 ; 2.20]	
Yes		1.00	
At least one food allergy	**N=180**		**0.5018**
No		1.45 [0.49 ; 4.25]	
Yes		1.00	
Clinical manifestations	**N=180**		**0.5271**
Associated asthma		1.00	
Rhinitis		1.22 [0.66 ; 2.28]	
Evaluation of the rhinitis according to ARIA 2010	**N=180**		**0.6178**
Intermittent mild rhinitis		0.00 [0.00 ; .]	
Intermittent moderate-severe rhinitis		1.00	
Persistent mild rhinitis		>999.99 [<0.001 ; > 999.99]	
Persistent moderate-severe rhinitis		3.04 [0.60 ; 15.48]	
Prescription of antihistamines at the end of V1	**N=180**		**0.1161**
No		1.89 [0.85 ; 4.16]	
Yes		1.00	
Prescription of corticosteroids (nasal) at the end of V1	**N=180**		**0.2274**
No		1.00	

Variable	N used	OR [95% CI]	p-value
Yes		1.44 [0.80 ; 2.58]	
Rhinitis symptomatic medication (antihistamines and/or corticosteroids (nasal))	**N=180**		**0.1405**
No		1.94 [0.80 ; 4.71]	
Yes		1.00	
Duration of SQ HDM SLIT-tablet prescription (months) (using the quartiles)	**N=179**		**0.9614**
≤ Q1: 357		1.00	
]Q1: 357; Median: 370]		0.87 [0.39 ; 1.93]	
]Median: 370; Q3: 410]		1.08 [0.49 ; 2.38]	
> Q3: 410		0.98 [0.42 ; 2.30]	
ISI score (at inclusion) (using the quartiles)	**N=180**		**<0.0001**
≤ Q1: 8		1.00	
]Q1: 8; Median: 12]		15.27 [4.71 ; 49.48]	
]Median: 12; Q3: 16]		20.04 [6.14 ; 65.45]	
> Q3: 16		36.55 [10.29 ; 129.81]	

Univariate logistic regression: age at inclusion (in classes), sex (male vs. female), BMI (in classes), smoking habits at inclusion, at least one respiratory allergy (other than HDM respiratory allergies) (yes vs. no), at least one food allergy (yes vs. no), clinical manifestations (AA vs. AR), evaluation of the rhinitis according to ARIA 2010, prescription of antihistamines at the end of V1 (yes vs. no), prescription of corticosteroids (nasal) at the end of V1 (yes vs. no), rhinitis symptomatic medication (yes vs. no), duration of SQ HDM SLIT-tablet prescription (in classes), ISI score at inclusion. Quartiles are used to class continuous variables that do not meet the log-linearity assumption

Abbreviations: ARIA= Allergic Rhinitis and its Impact on Asthma; BMI= Body Mass Index; CI= Confidence Interval; HDM= House Dust Mite; ISI= Insomnia Severity Index; MCID= Minimal Clinically Important Difference OR= Odds Ratio; Q1= 1st quartile; Q3= 3rd quartile.

Table S3. Univariate analysis. Variable of interest: ESS score improvement [change $\geq$ MCID$_{ESS}$] vs. no improvement [change $<$ MCID$_{ESS}$], V1 versus V4.

Variable	N used	OR [95% CI]	p-value
Age (at inclusion) (using the quartiles)	**N=171**		**0.5712**
$\leq$ Q1: 26		1.00	
]Q1: 26; Median: 33]		1.58 [0.67 ; 3.77]	
]Median: 33; Q3: 41]		1.65 [0.71 ; 3.85]	
> Q3: 41		1.10 [0.48 ; 2.50]	
Sex	**N=171**		**0.2815**
Male		1.00	
Female		1.41 [0.75 ; 2.64]	
BMI classes (at inclusion)	**N=169**		**0.5283**
Underweight (<18.5)		0.69 [0.18 ; 2.74]	
Normal (healthy) weight ([18.5; 25[)		1.00	
Overweight ([25.0; 30[)		0.61 [0.29 ; 1.29]	
Obese ($\geq$30)		0.62 [0.23 ; 1.65]	
Smoking habits (at inclusion)	**N=171**		**0.8111**
Non-smoker		1.00	
Previous smoker		1.88 [0.56 ; 6.31]	
Active smoker (+ occasional smoking)		1.51 [0.53 ; 4.25]	
Passive smoker		1.51 [0.13 ; 17.02]	
At least one respiratory allergy (other than HDM respiratory allergies)	**N=171**		**0.0715**
No		1.86 [0.95 ; 3.76]	
Yes		1.00	
At least one food allergy	**N=171**		**0.1891**
No		2.10 [0.69 ; 6.34]	
Yes		1.00	
Clinical manifestations	**N=171**		**0.4379**
Associated asthma		1.00	
Rhinitis		1.29 [0.68 ; 2.43]	
Evaluation of rhinitis according to ARIA 2010	**N=171**		**0.6736**
Intermittent mild rhinitis		1.00	
Intermittent moderate-severe rhinitis		1.00 [0.09 ; 11.03]	
Persistent mild rhinitis		1.00 [0.03 ; 29.81]	
Persistent moderate-severe rhinitis		1.53 [0.21 ; 11.16]	
Prescription of antihistamines at the end of V1	**N=171**		**0.0728**
No		2.22 [0.93 ; 5.31]	
Yes		1.00	
Prescription of corticosteroids (nasal) at the end of V1	**N=171**		**0.7304**
No		1.11 [0.60 ; 2.05]	
Yes		1.00	

Variable	N used	OR [95% CI]	p-value
Rhinitis symptomatic medication (antihistamines and/or corticosteroids (nasal))	**N=171**		**0.2329**
No		1.77 [0.69 ; 4.53]	
Yes		1.00	
Duration of SQ HDM SLIT-tablet prescription (months) (using the quartiles)	**N=169**		**0.6503**
≤ Q1: 356		1.00	
]Q1: 357; Median: 368]		1.46 [0.60 ; 3.54]	
]Median: 368; Q3: 386]		0.82 [0.35 ; 1.91]	
> Q3: 386		1.04 [0.44 ; 2.42]	
ESS score at inclusion	**N=171**	**1.21 [1.12 ; 1.31]**	**<0.0001**

Univariate logistic regression: age at inclusion (in classes), sex (male vs. female), BMI (in classes), smoking habits at inclusion, at least one respiratory allergy (other than HDM respiratory allergies) (yes vs. no), at least one food allergy (yes vs. no), clinical manifestations (AA vs. AR), evaluation of the rhinitis according to ARIA 2010, prescription of antihistamines at the end of V1 (yes vs. no), prescription of corticosteroids (nasal) at the end of V1 (yes vs. no), rhinitis symptomatic medication (yes vs. no), duration of SQ HDM SLIT-tablet prescription (in classes), ESS score at inclusion. Quartiles are used to class continuous variables that do not meet the log-linearity assumption

Abbreviations: ARIA= Allergic Rhinitis and its Impact on Asthma; BMI= Body Mass Index; CI= Confidence Interval; ESS= Epworth Sleepiness Scale; HDM= House Dust Mite; MCID= Minimal Clinically Important Difference; OR= Odds Ratio; Q1= 1st quartile; Q3= 3rd quartile.

Table S4. Univariate analysis. Variable of interest: ARCT score improvement [change ≥ MCID$_{ARCT}$] vs. no improvement [change < MCID$_{ARCT}$], V1 versus V4.

Variable	N used	OR [95% CI]	p-value
Age (at inclusion) (using the quartiles)	**N=641**		**0.3909**
≤ Q1: 26		1.00	
]Q1: 26; Median: 33]		1.24 [0.77 ; 2.00]	
]Median: 33; Q3: 42]		1.35 [0.84 ; 2.18]	
> Q3: 42		0.93 [0.58 ; 1.51]	
Sex	**N=641**		**0.4133**
Male		1.00	
Female		1.16 [0.82 ; 1.63]	
BMI classes (at inclusion)	**N=629**		**0.4931**
Underweight (<18.5)		0.89 [0.35 ; 2.27]	
Normal (healthy) weight ([18.5; 25[)		1.00	
Overweight ([25.0; 30[)		1.27 [0.83 ; 1.94]	
Obese (≥30)		1.48 [0.77 ; 2.84]	
Smoking habits (at inclusion)	**N=641**		**0.8309**
Non-smoker		1.00	
Previous smoker		1.20 [0.64 ; 2.26]	
Active smoker (+ occasional smoking)		0.89 [0.49 ; 1.60]	
Passive smoker		2.86 [0.35 ; 23.48]	
At least one respiratory allergy (other than HDM respiratory allergies)	**N=641**		**0.0054**
No		1.71 [1.17 ; 2.49]	
Yes		1.00	
At least one food allergy	**N=641**		**0.7442**
No		1.14 [0.53 ; 2.45]	
Yes		1.00	
Clinical manifestations	**N=641**		**0.0427**
Associated asthma		1.00	
Rhinitis		1.45 [1.01 ; 2.08]	
In the past month, did your patient have any sleep disorders related to their allergy?	**N=637**		**0.0918**
No		1.00	
Yes		1.36 [0.95 ; 1.95]	
Evaluation of the rhinitis according to ARIA 2010	**N=641**		**0.0025**
Intermittent mild rhinitis		1.00	
Intermittent moderate-severe rhinitis		2.00 [0.67 ; 5.98]	
Persistent mild rhinitis		3.50 [1.14 ; 10.71]	
Persistent moderate-severe rhinitis		4.16 [1.83 ; 9.45]	

Variable	N used	OR [95% CI]	p-value
Prescription of antihistamines at the end of V1	**N=641**		**0.8092**
No		0.95 [0.59 ; 1.51]	
Yes		1.00	
Prescription of corticosteroids (nasal) at the end of V1	**N=641**		**0.4393**
No		1.15 [0.81 ; 1.61]	
Yes		1.00	
Rhinitis symptomatic medication (antihistamines and/or corticosteroids (nasal))	**N=641**		**0.7990**
No		1.07 [0.63 ; 1.81]	
Yes		1.00	
Duration of SQ HDM SLIT-tablet prescription (months) (using the quartiles)	**N=638**		**0.0801**
≤ Q1: 356		1.00	
]Q1: 356; Median: 368]		1.59 [0.98 ; 2.59]	
]Median: 368; Q3: 399]		1.55 [0.95 ; 2.54]	
> Q3: 399		0.98 [0.62 ; 1.56]	
ARCT score at inclusion	**N=641**	**0.59 [0.54 ; 0.64]**	**<0.0001**

*Univariate logistic regression: age at inclusion (in classes), sex (male vs. female), BMI (in classes), smoking habits at inclusion, at least one respiratory allergy (other than HDM respiratory allergies) (yes vs. no), at least one food allergy (yes vs. no), clinical manifestations (AA vs. AR), sleep disorders in the past month related to the HDM respiratory allergies, evaluation of the rhinitis according to ARIA 2010, prescription of antihistamines at the end of V1 (yes vs. no), prescription of corticosteroids (nasal) at the end of V1 (yes vs. no), rhinitis symptomatic medication (yes vs. no), duration of SQ HDM SLIT-tablet prescription (in classes), ARCT score at inclusion. Quartiles are used to class continuous variables that do not meet the log-linearity assumption

Abbreviations: ARCT= Allergic Rhinitis Control Test; ARIA= Allergic Rhinitis and its Impact on Asthma; BMI= Body Mass Index; CI= Confidence Interval; GINA= Global Initiative for Asthma; HDM= House Dust Mite; MCID= Minimal Clinically Important Difference; OR= Odds Ratio; Q1= 1st quartile; Q3= 3rd quartile;

Table S5. Multivariate logistic analysis. Variable of interest: ARCT score, improvement [change $\geq$ MCID$_{ARCT}$] vs. no improvement [change $<$ MCID$_{ARCT}$], V1 versus V4.

Variable	N used	OR [95% CI]	p-value
At least one respiratory allergy (other than HDM respiratory allergies)			**0.0039**
No		2.07 [1.26 ; 3.40]	
Yes		1.00	
> Q3: 42		0.58 [0.32 ; 1.04]	0.0658
ARCT score (at inclusion)		**0.58 [0.53 ; 0.64]**	**<0.0001**

Table S6. Univariate analysis. Variable of interest: ACT score improvement [change $\geq$ MCID$_{ACT}$] vs. no improvement [change $<$ MCID$_{ACT}$], V1 versus V4.

Variable	N used	OR [95% CI]	p-value
Age (at inclusion) (using the quartiles)	**N=174**		**0.9300**
$\leq$ Q1: 26		1.00	
]Q1: 26; Median: 34]		1.01 [0.45 ; 2.24]	
]Median: 34; Q3: 42]		1.14 [0.48 ; 2.67]	
> Q3: 42		0.84 [0.36 ; 1.96]	
Sex	**N=174**		**0.4223**
Male		1.28 [0.70 ; 2.33]	
Female		1.00	
BMI classes (at inclusion)	**N=173**		**0.9322**
Underweight (<18.5)		0.91 [0.19 ; 4.30]	
Normal (healthy) weight ([18.5; 25[)		1.00	
Overweight ([25.0; 30[)		1.12 [0.56 ; 2.23]	
Obese ($\geq$30)		1.32 [0.53 ; 3.31]	
Smoking habits (at inclusion)	**N=174**		**0.6964**
Non-smoker		1.00	
Previous smoker		0.64 [0.22 ; 1.83]	
Active smoker (+ occasional smoking)		1.51 [0.53 ; 4.27]	
At least one respiratory allergy (other than HDM respiratory allergies)	**N=174**		**0.2331**
No		1.00	
Yes		1.57 [0.75 ; 3.31]	
At least one food allergy	**N=174**		**0.4006**
No		1.00	
Yes		1.66 [0.51 ; 5.46]	
In the past month, did your patient have any sleep disorders related to their allergy?	**N=172**		**0.0146**
No		1.00	
Yes		2.16 [1.16 ; 4.00]	
Evaluation of the rhinitis according to ARIA 2010	**N=173**		**0.2899**
Intermittent mild rhinitis		1.00	
Intermittent moderate-severe rhinitis		2.81 [0.42 ; 18.73]	
Persistent mild rhinitis		4.50 [0.63 ; 32.29]	
Persistent moderate-severe rhinitis		4.31 [0.90 ; 20.67]	
Prescription of antihistamines at the end of V1	**N=174**		**0.6978**
No		1.00	
Yes		1.17 [0.53 ; 2.59]	
Prescription of corticosteroids (nasal) at the end of V1	**N=174**		**0.4850**

Variable	N used	OR [95% CI]	p-value
No		1.00	
Yes		1.24 [0.68 ; 2.25]	
Rhinitis symptomatic medication (antihistamines and/or corticosteroids (nasal))	**N=174**		**0.7512**
No		1.00	
Yes		1.15 [0.48 ; 2.79]	
Duration of SQ HDM SLIT-tablet prescription (months) (using the quartiles)	**N=172**		**0.6009**
≤ Q1: 354		1.00	
]Q1: 354; Median: 368]		1.26 [0.54 ; 2.97]	
]Median: 368; Q3: 419]		1.10 [0.48 ; 2.54]	
> Q3: 419		0.71 [0.30 ; 1.68]	
Asthma severity according to GINA 2017	**N=174**		**0.3338**
No asthma medication		1.00	
GINA - Step 1		1.41 [0.37 ; 5.42]	
GINA - Step 2		2.50 [0.57 ; 11.00]	
GINA - Step 3		2.68 [0.78 ; 9.19]	
GINA - Step 4		2.78 [0.64 ; 12.05]	
Asthma control according to GINA 2017	**N=171**		**0.0003**
Well controlled		1.00	
Partly controlled		2.00 [1.00 ; 4.02]	
Uncontrolled		8.13 [2.82 ; 23.46]	
Patient having experienced severe exacerbation in the last 12 months	**N=174**		**0.3282**
No		1.00	
Yes		2.36 [0.42 ; 13.26]	
Prescription of corticosteroids (inhaled) at the end of V1	**N=174**		**0.0705**
No		1.00	
Yes		1.75 [0.95 ; 3.23]	
ACT score at inclusion	**N=174**	**0.58 [0.49 ; 0.68]**	**<0.0001**

*Univariate logistic regression: age at inclusion (in classes), sex (male vs. female), BMI (in classes), smoking habits at inclusion, at least one respiratory allergy (other than HDM respiratory allergies) (yes vs. no), at least one food allergy (yes vs. no), sleep disorders in the past month related to the HDM respiratory allergies, evaluation of the rhinitis according to ARIA 2010, prescription of antihistamines at the end of V1 (yes vs. no), prescription of corticosteroids (nasal) at the end of V1 (yes vs. no), rhinitis symptomatic medication (yes vs. no), asthma severity according to GINA 2017, asthma control according to GINA 2017, patient having experienced severe exacerbation in the last 12 months, prescription of corticosteroids (inhaled) at the end of V1, duration of SQ HDM SLIT-tablet prescription (in classes), ACT score at inclusion. Quartiles are used to class continuous variables that do not meet the log-linearity assumption

Abbreviations: ACT= Asthma Control Test; ARIA= Allergic Rhinitis and its Impact on Asthma BMI= Body Mass Index; CI= Confidence Interval; HDM= House Dust Mite; OR= Odds Ratio; Q1= 1st quartile; Q3= 3rd quartile;

Table S7. Multivariate logistic analysis. Variable of interest: ACT score, improvement [change $\geq$ MCID$_{ACT}$] vs. no improvement [change < MCID$_{ACT}$], V1 versus V4.

Variable	N used	OR [95% CI]	p-value
ACT score (at inclusion)		**0.58 [0.49 ; 0.68]**	**<0.0001**