

Supplement Table S1: Global characteristics of individuals enrolled in this study

Group	Age	Sex	Age at Illness onset	Anti-atopic medication and other treatment
Healthy control	56	M		no
	28	F		no
	26	M		no
	62	M		no
	21	M		no
	25	F		no
	58	F		no
	42	F		no
	61	M		no
Atopic rhinitis	31	F	26	fluticasone/ salmeterol inhaler; salbutamol
	32	M	31	ineffective immunotherapy previously, no current medication
	36	F	35	previously cetirizine; loratadine; no current medication
	49	M	39	ineffective immunotherapy previously, no current medication
	21	M	19	azelastine nasal spray; desloratadine; montelukast;
	33	M	30	formoterol; salbutamol; metronidazole cream; pimecrolimus cream
	53	M	33	ineffective immunotherapy previously; no current medication
	33	F	32	cetirizine; xylometazoline nasal spray
	33	M	30	cobetasol propionate creme; prednisolone

	52	F	32	cetirizine
	62	M	59	azelastine nasal spray; desloratadine; ketotifen eye drops; mometasone furoate cream; salbutamol
Atopic eczema	19	M	1	loratadine
	54	F	6 weeks	clobetasol shampoo and cream; mometasone furoate cream; methylprednisolone aceponate cream
	30	F	21	ebastine; mometasone furoate nasal spray
	43	F	childhood	betamethasone cream; methylprednisolone aceponate cream; pimecrolimus
	49	M	31	fluticasone
	24	M	5-6	betamethasone cream; mometasone furoate cream; octenidine dihydrochloride lotion; tacrolimus
	64	F	childhood	desloratadine; methylprednisolone aceponate cream; mometasone furoate cream
	58	M	6	fluticasone; fenoterol spray
	51	F	18	ineffective immunotherapy previously; betamethasone cream; ketoconazole shampoo; mometasone furoate cream; tacrolimus; pimecrolimus;
	51	M	20	levocetirizine; mometasone furoate cream; olopatadine
	55	M	37	clobetasol cream; mometasone furoate cream
Atopic asthma	65	M	47	beclometasone dipropionate/ formoterol inhaler; mepolizumab; montelukast; tiotropium bromide inhaler
	76	M	40	fluticasone/salmeterol inhaler; mepolizumab; omalizumab; prednisolone, tiotropium bromide
	59	M	46	aclidinium bromide inhaler; budesonide/ formoterol inhaler; mepolizumab; methylprednisolone

	59	M	childhood	beclometasone dipropionate/ formoterol inhaler; fluticasone/ vilanterol inhaler; mepolizumab; prednisolone; roflumilast; omalizumab
	42	M	30	beclometasone dipropionate/ formoterol inhaler; budesonide nasal spray, omalizumab
	32	F	childhood	fluticasone/ formoterol inhaler; mepolizumab; prednisolone
	31	F	childhood	fluticasone/ salmeterol inhaler; omalizumab; prednisolone; salbutamol inhaler; tiotropium bromide inhaler
	53	M	43	cetirizin; fluticasone/ salmeterol inhaler; montelukast; omalizumab
	35	M	23	beclometasone dipropionate/ formoterol inhaler; fluticasone/ vilanterol inhaler; ipratropium bromide; tiotropium bromide inhaler; omalizumab
	24	F	3	beclometasone dipropionate/ formoterol inhaler; mepolizumab; montelukast; tiotropium bromide inhaler
	49	F	42	fluticasone/ salmeterol inhaler; omalizumab; prednisolone
	57	F	29	budesonide/ formoterol inhaler; tiotropium bromide inhaler; omalizumab

Supplement Table S2: Sequences of amplification primers used for qRT-PCR

mRNA	Forward 5'→3'	Reverse 5'→3'
<i>hALOX15</i>	ACTGAAATCGGGCTGCAAGGGG	TGGCCACAGCCACCATAACGG
<i>hALOX15B</i>	GTGCAGTGGAACGCTTTGTCTC	AAGCACAGGAGTCAAACCTGCCC
<i>hALOX12</i>	GGGCGAGGAGGAGGAGTTTGAT	TCCAGGTGGCCCAGCAGTAGAT
<i>hALOX5</i>	TGGACAAGCCCTTCTACAACGAC	CGTCGGTGTTGCTTGAGAATGTG
<i>hMAOA</i>	GCCAAGATTCACTTCAGACCAGAG	TGCTCCTCACACCAGTTCTTCTC
<i>hFN</i>	GACCCTCATGAGGCAACGTGTTA	TGGGCAATTAACATTAGTGTTTGTTT
<i>hGAPDH</i>	CCATCACCATCTTCCAGGAGCGA	GGATGACCTTGCCACAGCCTTG