

quantified using the Imaris software (Bitplane). Each figure is representative of at least three experiments. Error bars = SD. 400x magnification. (e) Uptake of Salmonella typhimurium by CD11c-eYFP⁺ cells derived from the murine nose and mediastinal lymph node is compared between PBS and PTX administered mice at 5 min, 35 min and 12h post administration using two-photon microscopy.

Figure 8. Identification of DCs in human nasal mucosa. (a) Live CD45⁺ mononuclear CD3⁻ CD20⁻ CD335⁻ CD66b⁻ CD14⁻ cells, i.e., T, B, NK, neutrophils and monocyte excluded cells were analyzed for BDCA-1, 2, 3 markers. Three DC populations are shown: BDCA-1⁺ myeloid DCs (left), BDCA-2⁺ plasmacytoid DCs (middle), BDCA-3^{hi} myeloid DCs (right). (b) Frequency of BDCA-1⁺ cells, BDCA-2⁺ cells and BDCA-3^{hi} cells as a percent of CD45⁺ mononuclear cells of Normal, CRS, or CRS with nasal polys. Composite data from 20 donors are shown. * p<0.05.

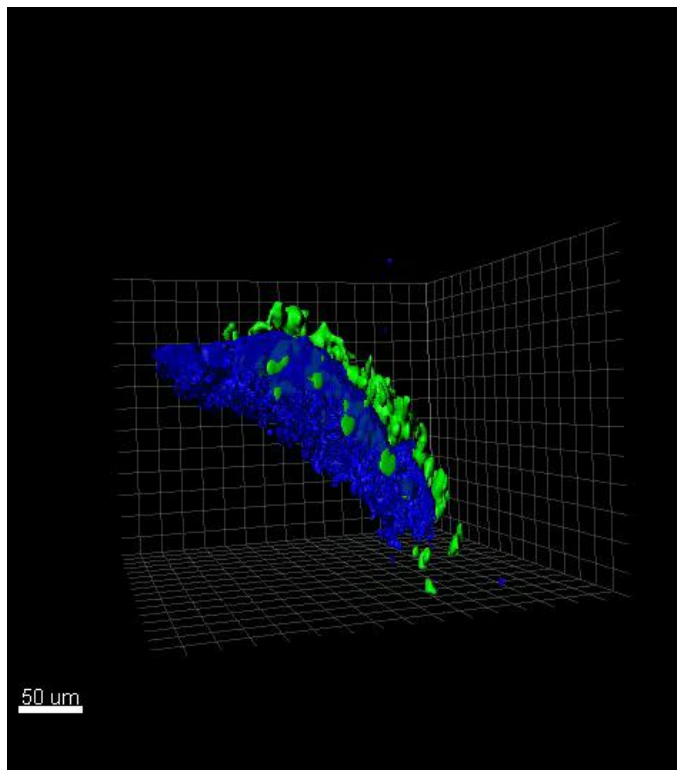
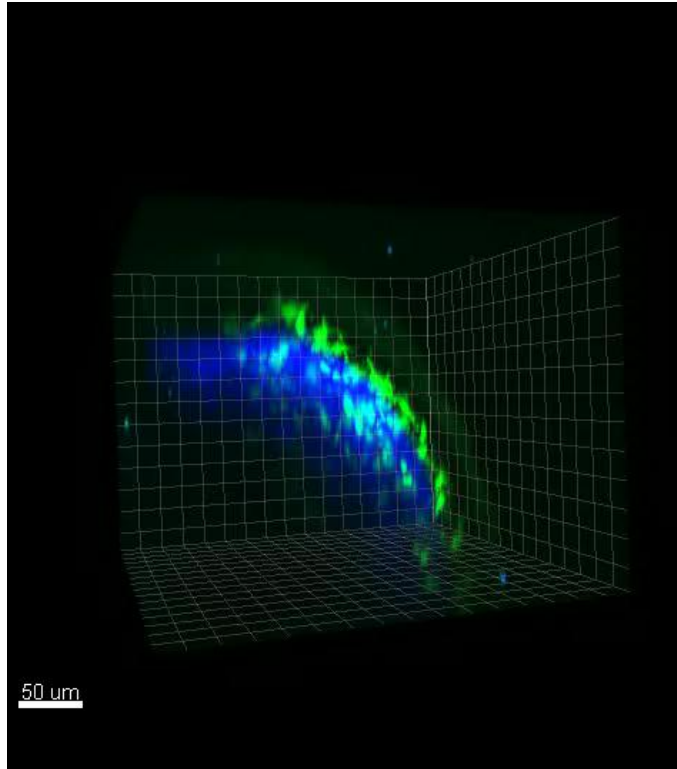
Supplementary figure 1. Three-dimensional reconstruction from two-photon microscopy data, represented as a movie, showing CD11c-eYFP⁺ DCs in green and second-harmonics signals from collagen in blue.

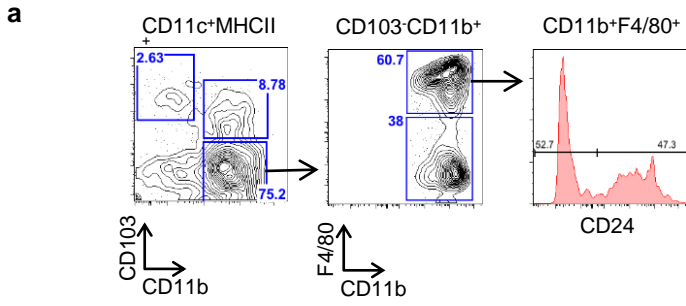
Supplementary figure 2. Surface expression of CD24 and CD64 on nasal DCs. (a) Live CD45⁺CD11c⁺MHCII⁺CD103⁻CD11b⁺F4/80⁺ cells were examined for the expression of CD24.

Supplementary figure 3. Comparison of the indicated cell populations in the nasal tissue of a cohort of normal human volunteers with patients with CRS without and with nasal polyps. * $p < 0.05$

Supplementary figure 4. Antibodies used for CYTOF assays.

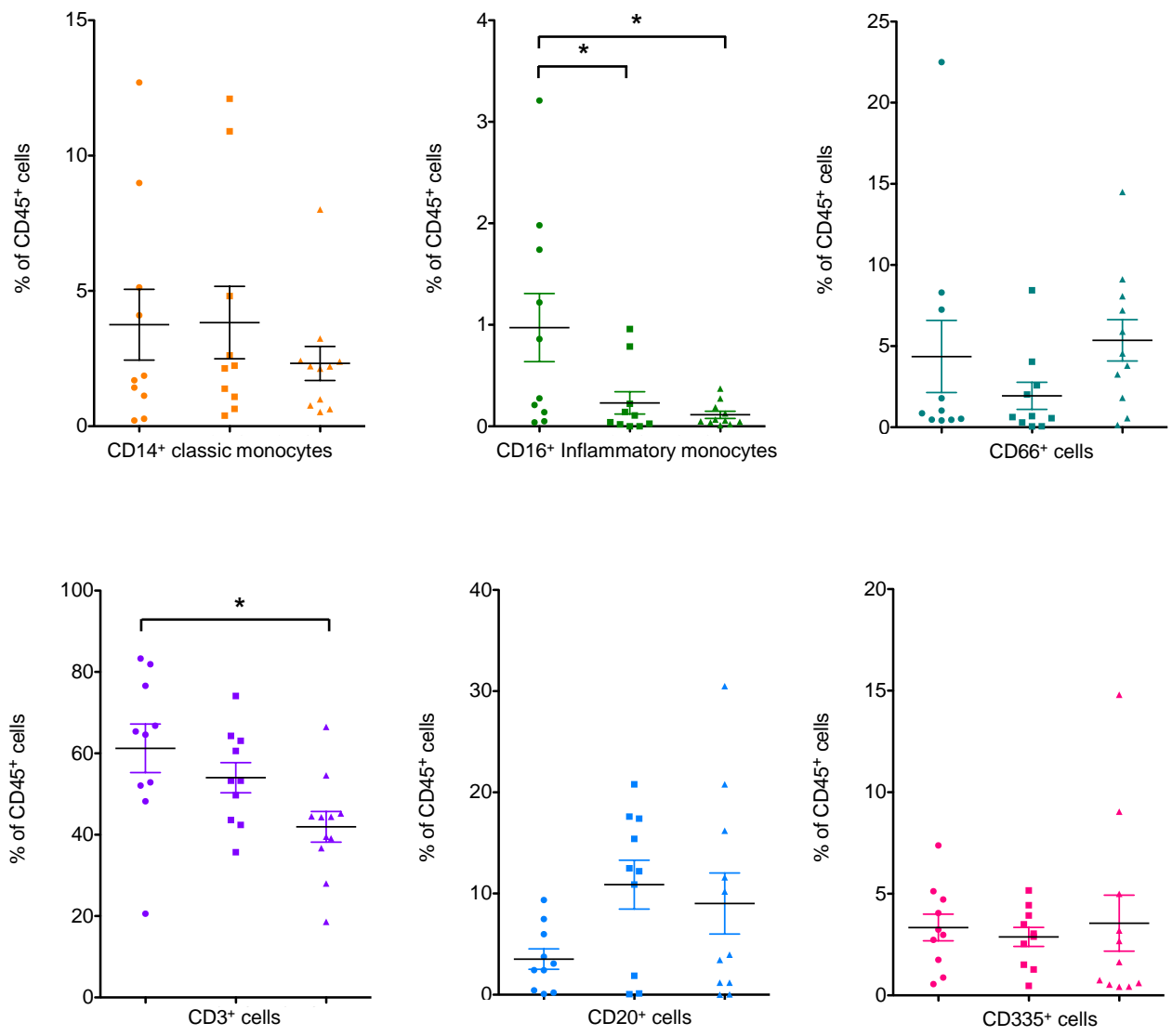
Supplementary figure 1





Supplementary figure 3

a



Clinical Characteristics of human volunteers

Group I : Normal

<u>Study No.</u>	<u>Age (yr)</u>	<u>Sex (M/F)</u>	<u>Steroids (Yes/No)</u>	<u>Antibiotics (Yes/No)</u>	<u>Tissue analyzed</u>	<u>Indication for surgery</u>	<u>Concomitant medications</u>
B1	67	M	No	No	Nasal Biopsy	Epistaxis	Diazepam, clonazepam, atorvastatin, quinapril, amlodipine
B6	41	M	Topical	No	Nasal Biopsy	Ameloblastoma	Calcipotriene/betamethasone
BA23	25	M	No	No	Adenoid	Deviated nasal septum	None
B24	33	M	Yes	Yes	Nasal Biopsy	Pituitary macroadenoma	Armodafinil, augmentin, prednisone
B25	64	F	Yes	No	Nasal Biopsy	Pituitary macroadenoma	Mometasone, montelukast, prednisone, levothyroxine, citalopram, fenofibrate, chlordiazepoxide-clidinium, pancrelipase, esomeprazole, vit d, vit b complex, calcium carbonate, multivitamin, folic acid
BS27	65	F	No	No	Sinus Mucosa	Pituitary macroadenoma	Benazepril-hydrochlorothiazide
B28	53	F	No	No	Nasal Biopsy	Meningioma	Lithium carbonate, oxycodone
B29	82	F	No	No	Sinus Mucosa	Pituitary macroadenoma	Simvastatin, metformin, omeprazole, enalapril
B30	50	F	No	No	Nasal Biopsy	Pituitary macroadenoma	None
B32	38	F	No	No	Nasal Biopsy	Pituitary macroadenoma	Amlodipine, hydrochlorothiazide, acetaminophen, ondansetron

Group II : CRS

<u>Study No.</u>	<u>Age (yr)</u>	<u>Sex (M/F)</u>	<u>Steroids (Yes/No)</u>	<u>Antibiotics (Yes/No)</u>	<u>Tissue analyzed</u>	<u>Indication for surgery</u>	<u>Concomitant medications</u>
B2	41	M	No	No	Nasal Biopsy	CRS	Tamsulosin, esomeprazole
BA3	41	M	No	No	Adenoid	CRS	Tamsulosin, esomeprazole
B4	54	M	No	No	Nasal Biopsy	CRS with nasal polyps	Escitalopram, esomeprazole
BA5	54	M	No	No	Adenoid	CRS with nasal polyps	Escitalopram, esomeprazole
B7	40	F	No	Yes	Nasal Biopsy	CRS, R maxillary sinus lesion	Azithromycin, sitagliptan-metformin, lisinopril, glimepiride
B8	61	M	Yes	No	Nasal Biopsy	CRS with nasal polyps	Tiotropium, prednisone, mometason/formoterol, montelukast, budesonide, saw palmetto
B9	61	M	Yes	No	Nasal Biopsy	CRS with nasal polyps	Tiotropium, prednisone, mometason/formoterol, montelukast, budesonide, saw palmetto
B10	33	M	No	No	Nasal Biopsy	CRS with nasal polyps	Zileuton, omalizumab
BA11	33	M	No	No	Adenoid	CRS with nasal polyps	Zileuton, omalizumab
B12	50	M	Yes	Yes	Nasal Biopsy	CRS with nasal polyps	Moxifloxacin, prednisone, spironolactone, mokelukast, sodium chloride solution, verapamil
B13	75	F	Yes	Yes	Nasal Biopsy	CRS	Prednisone, amoxicillin
B14	75	F	Yes	Yes	Nasal Biopsy	CRS	Prednisone, amoxicillin
BA15	75	F	Yes	Yes	Adenoid	CRS	Prednisone, amoxicillin
B16	42	F	No	No	Nasal Biopsy	CRS	Fluoxetine
BS17	42	F	No	No	Sinus Mucosa	CRS	Fluoxetine
B18	42	F	No	No	Nasal Biopsy	CRS	Fluoxetine
BA19	51	F	Yes	Yes	Adenoid	CRS with nasal polyps	Esomeprazole, levofloxacin, prednisone
B20	51	F	Yes	Yes	Nasal Biopsy	CRS with nasal polyps	Esomeprazole, levofloxacin, prednisone
BS21	51	F	Yes	Yes	Sinus Mucosa	CRS with nasal polyps	Esomeprazole, levofloxacin, prednisone
BS22	51	F	Yes	Yes	Sinus Mucosa	CRS with nasal polyps	Esomeprazole, levofloxacin, prednisone
BA26	49	M	No	No	Adenoid	CRS, encephalocele	None

Antibodies used for immunofluorescent microscopy

Antibody	Fluorochrome	Specificity	Clone	Final concentration	Source	Secondary antibody	Third antibody
CD3	Purified	CD3	145-2C11	3 µg/µl	Abcam	Alexa 488; Alexa 647	
CD11c	Purified	αxβ2 integrin	RM4-5	3 µg/µl	BD	Anti-hamster Biotin	SA- Alexa 555
B220	Purified	CD45R	53-6.7	2 µg/µl	eBioscience	Alexa 647	
Cytokeratin 18	Purified	CK18		2 µg/µl	Abcam	Alexa 488	
LYVE1	Purified	LYVE1	ab14917	2 µg/µl	Abcam	Alexa 488	
CD31	Purified	PECAM1	MEC13.3	2 µg/µl	BD	Alexa 488	
CD207	Purified	Langerin	L31; E17	3 µg/µl	eBioscience, Santa Cruz Biotech	Alexa 488	

Antibodies used for mouse flow cytometry

Antibody	Fluorochrome	Clone
B220	A647; PerCP Cy5.5	RA3-6B2
CD3ε	A700; Pe-Cy7	145-2C11
CD4	PerCP Cy5.5	RM4-5
CD8α	APC	53-6.7
CD103	BV421	2E7
CD11b	A488	M1/70
CD11c	Pe-Cy7	N418
CD45	PerCP	30-F11
F4/80	BV421	BM8
TLR3	APC	11F8
TCR Vα2	APC	B20.1
CD14	APC	Sa14-2
CD206	APC	C068C2
EpCAM	APC	G8.8
CD24	APC	M1/69
CD64	PE	X54-5/7.1
Ly6C	BV421	HK1.4
LY6G	APC	RB6-8C5
CD115	APC	AFS98
MHCII	A700	M5/114.15.2
CD19	PerCP Cy5.5	6D5
CD207	PE	L31
CD317	PE	129c
NK 1.1	PerCP	PK136

All antibodies are from BD biosciences, Biolegend, or eBioscience.

Antibodies used for CYTOF assays

Isotope	Antibody	Clone	Source
Cd (Qdot-655)	Thy1.2	53-2.1	eBioscience
141 Pr	Ly6G	1A8	Biolegend
142 Nd	CD11c	N418	Fluidigm
147 Sm	CD45	30-F11	Fluidigm
148 Nd	CD11b	M1/70	Fluidigm
149 Sm	CD19	6D5	Fluidigm
150Nd	CD24	M1/69	Fluidigm
152Sm	Siglec F	E50-2440	BD Bioscience
153 Eu	CD317	927	Biolegend
154 Sm	TER119	TER119	Fluidigm
156 Gd	CD64	X54-5/7.1	Biolegend
162 Dy	Ly6C	HK1.4	Biolegend
164Dy	CD103	2E7	Biolegend
166Er	CD117	2B8	Fluidigm
169 Tm	TCRb	H57-597	Fluidigm
170 Er	NK1.1	PK136	Fluidigm
174 Yb	MHCII	M5/114.15.2	Fluidigm
175Lu	CD135	A2F10	eBioscience
176 Yb	B220	RA3-6B2	Fluidigm