

Supporting Table 1. Clinical features of study patients							
Study ID	Age, years	Sex	Hematological malignancy	Disease status	Chemotherapy*	Type of HSCT†	Risk factors for IMI**
IA_001	38	F	AML	Relapse	IT ARA-C, IT hydrocortisone	Double cord blood	GVHD, steroids, umbilical cord, CMV
IA_002	47	M	B-ALL	Relapse	Dana-Farber 2009>>>Hyper-CVAD	n/a	Neutropenia, steroids
IA_003	66	M	AML	Relapse	3+7>>>FLAG-IDA	n/a	Neutropenia
IA_004	64	F	MDS	Remission	ATG, CsA 2009	Matched-unrelated HSCT	GVHD, steroids
IA_005	49	F	AML	Remission	Azacitidine in 2012	Matched related HSCT	GVHD, steroids
IA_006	69	F	AML	Remission	FLAG-IDA 2013	n/a	Neutropenia
IA_007°	55	F	AML	Remission	NOVE-HiDAC 2010	Match-unrelated HSCT	GVHD, CMV
IA_008	57	M	AML	Not in remission	FLAG-IDA	n/a	Neutropenia
IA_009	72	M	Lymphoma>>>AML	Not in remission	Alemtuzumab/CHOP 2010 >>> FLAG-IDA	n/a	Neutropenia
IA_010	61	M	Relapsed AML	Remission	FLAG-IDA	Match-unrelated HSCT 2009	Neutropenia
IA_011	64	M	CMML>AML	Remission	NOVE-HiDAC>>> 3+7	n/a	Neutropenia
IA_012	34	M	CMML	Remission	Hydroxyurea	Matched-related HSCT	GVHD, steroids, CMV
IA_013	61	F	B-ALL	Not in remission	Vincristine, MTX	n/a	-
IA_018	70	M	AML	Remission	FLAG-IDA	n/a	Neutropenia
Non-IFI_001	44	M	AML	Remission	3+7 induction, ARA-C consolidation	n/a	Neutropenia, CMV
Non-IFI_002	33	F	B-ALL	Remission	Dana-Farber	n/a	Neutropenia
Non-IFI_003	62	M	AML (mixed phenotype)	Remission	Dana-Farber	n/a	Neutropenia
Non-IFI_004	43	F	AML	Remission	3+7>>>FLAG-IDA	Match-unrelated HSCT	GVHD, CMV
Non-IFI_005	48	M	NHL	Remission	R-CHOP>>>GDP salvage ttx	Autologus	Neutropenia

Non-IFI_007	23	M	B-ALL	Relapse	Dana-Farber >>>MTX	n/a	Neutropenia
Non-IFI_008	51	F	ALL	Remission	Dana-Farber plus DASATINIB (without L- ASPARAGINASE) 2013	Matched related HSCT	GVHD , steroids, neutropenia
Non-IFI_011	68	M	MDS	Remission	Azacytidine 2011	Matched-unrelated HSCT	GVHD, steroids, neutropenia
Non-IFI_015	46	M	AML	Remission	3+7 (2011)	Matched unrelated HSCT	Chronic GVHD, steroids, CMV
Non-IFI_018	42	M	B-ALL	Not in remission	Dana Farber protocol	n/a	Neutropenia
Non-IFI_020	53	M	B-ALL	Not in remission	Dana-Farber protocol	n/a	Neutropenia, CMV
Non-IFI_022	41	F	AML	Remission	3+7	n/a	Neutropenia
Non-IFI_028	45	F	AML	Remission	3+7	n/a	Neutropenia
Non-IFI_029	50	M	AML	Remission	3+7>>>FLAG_IDA	n/a	Neutropenia
Non-IFI_030	38	F	AML	Not in remission	3+7>>>FLAG_IDA	n/a	Neutropenia
Non-IFI_031	55	M	AML	Remission	3+7	n/a	Neutropenia, mucositis
Mucor_001	65	M	AML/MDS	Remission	Pred, MTX, imuran>>>azacytidine	n/a	Neutropenia
Mucor_002	25	M	ALL	Remission	DFCI	n/a	Neutropenia
Mucor_003	49	M	AML	Relapse	3+7>>>FLAG-IDA	n/a	Neutropenia
Mucor_004	58	M	AML	Remission	3+7	n/a	Neutropenia

Supporting Table 1. Clinical features of study patients (continued)									
Study ID	Serum GM	BAL GM	BAL culture	Cytology/ Pathology	CT chest findings	Antifungal therapy	Antifungal at the time of sample collection	Time from IMI to sample collection (days)	Time from HSCT to sample collection (months)
IA_001	n/a	Positive	<i>A. fumigatus</i>		Nodules, consolidation	VOR > CAS > L-AMB	VOR	11	13
IA_002	n/a	Positive	No growth		Nodules, pleural effusion	VOR	VOR	48	
IA_003	Positive	Positive	No growth		Nodules	VOR > CAS > L-AMB	AMB	42	
IA_004	Negative	Negative	<i>A. niger</i>		Nodule, halo sign+	VOR	VOR	70	56
IA_005	Negative	Negative	<i>A. fumigatus</i>		bilateral opacities	VOR	VOR	57	26
IA_006	Negative	Positive	No growth		Nodules	VOR	None	315	
IA_007°	Negative	Negative	<i>A. fumigatus</i> <i>Zygomycetes</i>	Septate hyphae on BAL	GGO	VOR > POS > CAS	None	389	41
IA_008	Negative	Positive	No growth		Nodules	VOR	VOR	11	
IA_009	Negative	Positive	<i>A. fumigatus</i>	Septate hyphae on BAL	Nodules	CAS > L- AMB > VOR	AMB	2	
IA_010	Positive	Positive	No growth		Nodules	VOR > L- AMB	AMB	16	58
IA_011	Negative	Positive	No growth		GGO, cavitary mass	VOR	VOR	70	
IA_012	Negative	Positive	<i>A. niger</i>		Nodule, cavitary lesion	L-AMB	AMB	11	16.5
IA_013	Negative	Positive	No growth		Consolidation	VOR	VOR	20	

					b/l, GGO				
IA_018	Negative	Positive	No growth		Pulmonary nodules, GGO, halo sign+	VOR	VOR	23	
NonIFI_001	Negative	nd	nd		Normal	None	None		
NonIFI_002	nd	nd	nd		Normal	MIC	MIC (prophylaxis)		
NonIFI_003	Negative	nd	nd		nd	None	None		
NonIFI_004	Negative	Negative	No growth		Small nodules	None	None		11
NonIFI_005	nd	nd	nd		Nd	None	None		7
NonIFI_007	nd	nd	nd		Small nodules	VOR > CAS	CAS (empiric)		
Non-IFI_008	nd	nd	nd		Small area of GGO	None	None		9
Non-IFI_011	nd	nd	nd		Mild heterogeneity of the lung parenchyma in keeping with GVHD	None	None		37.5
Non-IFI_015	nd	nd	nd		Normal	None	None		36
Non-IFI_018	nd	nd	nd		Small nodules	None	None		
Non-IFI_020	nd	nd	nd		GGO	None	None		
Non-IFI_022	nd	nd	nd		Normal	None	None		
Non-IFI_028	nd	nd	nd		Stable small solitary nodule	None	None		
Non-IFI_029	nd	nd	nd		Stable small solitary nodule	None	None		
Non-IFI_030	nd	nd	nd		Stable 3mm	None	None		

					nodules				
Non-IFI_031	Nd	Nd	Nd		Normal	None	None		
Mucor_001	Negative	nd	nd	Mucor	Nodules, GGO	L-AMB	AMB	23	
Mucor_002	Nd	nd	nd	Mucor	Normal	L-AMB	AMB	17	
Mucor_003	Negative	Negative	No growth	Mucor	opacities, nodules	L-AMB >POS	POS	177	
Mucor_004	Negative	nd	nd	Mucor (<i>Rhizopus</i>)	Normal	L-AMB > POS	POS	125	

IA, invasive aspergillosis; IFI, invasive fungal infection; Mucor, Mucormycosis; AML, acute myeloid leukemia; ALL, acute lymphoblastic leukemia; CMML, chronic myelomonocytic leukemia; NHL, non-Hodgkin's lymphoma; MDS, myelodysplastic syndrome; HSCT, hematopoietic stem cell transplant; ATG, anti-thymoglobulin; CsA, Cyclosporine; GM, galactomannan; GVHD, graft-versus-host disease, CMV, cytomegalovirus; GGO, ground glass opacities; VOR, voriconazole; CAS, caspofungin; L-AMB, liposomal Amphotericin B; MIC, micafungin; POS, posaconazole; n/a, not applicable; nd, not done

°Mixed IFI: this patient had recurrent episodes of IA and in addition to *Aspergillus fumigatus* also grew *Zygomycetes* in a recent bronchoalveolar lavage.

*Most recent chemotherapy regimen. 3+7= Daunorubicin, cytarabine (Ara-c); FLAG-IDA: Idarubicin, Fludarabine and Ara-c; Hyper-CVAD: Cyclophosphamide, Doxorubicin, Vincristine, Daunorubicin, Dexamethasone plus CNS prophylaxis: intrathecal (IT) Methotrexate, Ara-C; DFCI: Vincristine, Doxorubicin, MTX, methylprednisolone plus intrathecal Ara-C, MTX, hydrocortisone; NOVE-HIDAC: Mitoxantrone, Etoposide, Ara-c; R-CHOP: Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, prednisolone (pred). GDP: Gemcitabine, Dexamethasone and Cisplatin.

**CMV reactivation defined as blood CMV DNA level in peripheral blood >100IU/ml in two occasions within the 12 months prior to data of sample collection.

†Full chimerism, defined as >95% of cells of donor origin, was documented for all the HSCT recipients, except IA_010 who had evidence of mixed chimerism, and IA_001 and non-IFI_011 in whom chimerism data was not available.