

Adapted from Hart NJ, Powers AC (2018) Progress, challenges, and suggestions for using human islets to understand islet biology and human diabetes. Diabetologia https://doi.org/10.1007/s00125-018-4772-2.

Manuscript DOI: https://doi.org/10.2337/DB19-0979.R1

Title: NKG2D signaling within the pancreatic islets reduces NOD diabetes and increases protective central memory CD8+ T cell numbers

Author list: Andrew P. Trembath, Kelsey L. Krausz, Neekun Sharma, Ivan C. Gerling, Clayton E. Mathews and Mary A. Markiewicz

Islet preparation	1	2	3	4	5	6	7	8	
MANDATORY INFORMATION									
Unique identifier	6013	6024	6048	6075	6012	6099	6140	6162	
Donor age (years)	65	21	30	16	68	14.2	38	22.7	
Donor sex (M/F)	М	М	М	М	F	М	М	М	
Donor BMI (kg/m²)	24.2	27.8	20.6	14.9	23.7	30	21.7	28.9	

Donor HbA _{1c} or other measure of blood glucose control	0	0	0	0	0	0	6	0
Origin/source of islets ^b	nPOD							
Islet isolation centre	University of Florida							
Donor history of diabetes? Yes/No	No							
If Yes, complete the next	two lines if this	s information is	s available					
Diabetes duration (years)								
Glucose-lowering therapy at time of death ^c								

	RECOMMENDED INFORMATION										
Donor cause of death	Cerebrovascular/ Stroke	Head Trauma	Cerebrovascular/ Stroke	Anoxia	Cerebrovascular/ Stroke	Head Trauma	Cerebrovascular/ Stroke	Head Trauma			
Warm ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown			
Cold ischaemia time (h) Unknown Unknown											

Estimated purity (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Estimated viability (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total culture time (h) ^d	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Glucose-stimulated insulin secretion or other functional measuremente	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Handpicked to purity? Yes/No	No	No	No	No	No	No	No	No
Additional notes	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections

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bFor example, IIDP, ECIT, Alberta IsletCore

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Islet preparation	9	10	11	12	13	14	15	16	
MANDATORY INFORMATION									
Unique identifier	6168	6227	6129	6165	6102	6229	6251	6010	
Donor age (years)	51	17	42.9	45.8	45.1	31	33	47	
Donor sex (M/F)	М	F	F	F	F	F	F	F	
Donor BMI (kg/m²)	25.2	26.4	23.4	25	35.1	26.9	29.5	19.7	

Donor HbA _{1c} or other measure of blood glucose control	6.2	0	5.2	5.6	6.1	5.5	5.3	0
Origin/source of islets ^b	nPOD	nPOD	nPOD	nPOD	nPOD	nPOD	nPOD	nPOD
Islet isolation centre	University of Florida	University of Florida	University of Florida	University of Florida				
Donor history of diabetes? Yes/No	No	No	No	No	No	No	No	No
If Yes, complete the next	two lines if this	s information is	s available					
Diabetes duration (years)								
Glucose-lowering therapy at time of death ^c								

	RECOMMENDED INFORMATION										
Donor cause of death	Cerebrovascular/ Stroke	Cerebrovascular/ Stroke	Anoxia	Cerebrovascular/ Stroke	Cerebrovascular/ Stroke	Head Trauma	Head Trauma	Cerebrovascular/ Stroke			
Warm ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown			
Cold ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown			

Estimated purity (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Estimated viability (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total culture time (h)d	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Glucose- stimulated insulin secretion or other functional measuremente	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Handpicked to purity? Yes/No	No	No	No	No	No	No	No	No
Additional notes	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections

 $^{^{\}mathrm{a}}$ If you have used more than eight islet preparations, please complete additional forms as necessary $^{\mathrm{b}}$ For example, IIDP, ECIT, Alberta IsletCore

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Islet preparation	17	18	19	20	21	22	23	24	
MANDATORY INFORMATION									
Unique identifier	6179	6019	6070	6084	6088	6180	6224	6243	
Donor age (years)	21.8	42	22.6	14.2	31.2	27.1	21	13	
Donor sex (M/F)	F	М	F	М	М	М	F	М	
Donor BMI (kg/m²)	20.7	31	21.6	26.3	27	25.9	22.8	21.3	

Donor HbA _{1c} or other measure of blood glucose control	0	5.6	0	0	0	0	0	13.1
Origin/source of islets ^b	nPOD							
Islet isolation centre	University of Florida							
Donor history of diabetes? Yes/No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
If Yes, complete the next	two lines if this	s information is	s available					
Diabetes duration (years)			7	4	5	11	1.5	5
Glucose-lowering therapy at time of death ^c			Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

RECOMMENDED INFORMATION										
Donor cause of death	Head Trauma	Head Trauma	Anoxia	Anoxia	Head Trauma	Head Trauma	Anoxia	Cerebrovascular/ Stroke		
Warm ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown		
Cold ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown		

Estimated purity (%)	N/A							
Estimated viability (%)	N/A							
Total culture time (h)d	N/A							
Glucose-stimulated insulin secretion or other functional measuremente	N/A							
Handpicked to purity? Yes/No	No							
Additional notes	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections

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Islet preparation	25	26	27	28	29	30	31	32
MANDATORY INFORMATION								
Unique identifier	6228	6209	6038	6046	6069	6195	6052	6268
Donor age (years)	13	5	37.2	18.8	22.9	19.2	12	12
Donor sex (M/F)	М	F	F	F	М	М	М	F
Donor BMI (kg/m²)	17.4	11.95	30.9	25.2	28.2	23.7	20.3	26.6

Donor HbA _{1c} or other measure of blood glucose control	13.3	0	0	0	0	0	0	9.8
Origin/source of islets ^b	nPOD							
Islet isolation centre	University of Florida							
Donor history of diabetes? Yes/No	Yes							
If Yes, complete the next	two lines if this	s information is	s available					
Diabetes duration (years)	0	0.25	20	8	7	5	1	3
Glucose-lowering therapy at time of death	Unknown							

RECOMMENDED INFORMATION									
Donor cause of death	Anoxia	DKA	Anoxia	Anoxia	Head Trauma	Head Trauma	Another	Anoxia	
Warm ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Cold ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	

Estimated purity (%)	N/A							
Estimated viability (%)	N/A							
Total culture time (h)d	N/A							
Glucose-stimulated insulin secretion or other functional measuremente	N/A							
Handpicked to purity? Yes/No	No							
Additional notes	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections

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Islet preparation	33	34	35	36	37	38	39	40
MANDATORY INFORMATION								
Unique identifier	6265	6196	6211	6113	6264	6135	6080	6123
Donor age (years)	11	26	24	13.1	12	43.5	69.2	23.2
Donor sex (M/F)	М	F	F	F	F	М	F	F
Donor BMI (kg/m²)	12.9	26.6	24.4	24.8	22	28.7	21.3	17.6

Donor HbA _{1c} or other measure of blood glucose control	0	0	10.5	0	8.9	0	0	5.4
Origin/source of islets ^b	nPOD							
Islet isolation centre	University of Florida							
Donor history of diabetes? Yes/No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
If Yes, complete the next	two lines if this	s information is	s available					
Diabetes duration (years)	8	15	4	1.58	9	21	0	0
Glucose-lowering therapy at time of death ^c	Unknown							

	RECOMMENDED INFORMATION										
Donor cause of death	Cerebrovascular/ Stroke	Anoxia	Anoxia	Head Trauma	DKA	Anoxia	Cerebrovascular/ Stroke	Head Trauma			
Warm ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown			
Cold ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown			

Estimated purity (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Estimated viability (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total culture time (h)d	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Glucose-stimulated insulin secretion or other functional measuremente	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Handpicked to purity? Yes/No	No	No	No	No	No	No	No	No
Additional notes	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections

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Islet preparation	41	42	43	44	45	46	47	48
MANDATORY INFORMATION								
Unique identifier	6158	6167	6171	6044	6101	6154	6156	6181
Donor age (years)	40.3	37	4.3	41.4	64.8	48.5	40	31.9
Donor sex (M/F)	М	М	F	М	М	F	М	М
Donor BMI (kg/m²)	29.7	26.3	14.8	27.4	34.3	24.5	19.8	21.9

Donor HbA _{1c} or other measure of blood glucose control	5.6	0	0	0	0	0	0	0
Origin/source of islets ^b	nPOD							
Islet isolation centre	University of Florida							
Donor history of diabetes? Yes/No	No							
If Yes, complete the next	two lines if this	s information is	s available					
Diabetes duration (years)								
Glucose-lowering therapy at time of death								

RECOMMENDED INFORMATION										
Donor cause of death	Head Trauma	Head Trauma	Anoxia	Head Trauma	Cerebrovascular/ Stroke	Head Trauma	Head Trauma	Head Trauma		
Warm ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown		
Cold ischaemia time (h)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown		

Estimated purity (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Estimated viability (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total culture time (h)d	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Glucose-stimulated insulin secretion or other functional measuremente	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Handpicked to purity? Yes/No	No	No	No	No	No	No	No	No
Additional notes	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections

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Corresponding author: Mary A. Markiewicz

Email address: mmarkiewicz@kumc.edu

Islet preparation	49	50						
MANDATORY INFORMATION								
Unique identifier	6197	6147						
Donor age (years)	22	23.8						
Donor sex (M/F)	М	F						
Donor BMI (kg/m²)	28.2	32.9						

Donor HbA _{1c} or other measure of blood glucose control	5.5	5.2						
Origin/source of islets ^b	nPOD	nPOD						
Islet isolation centre	University of Florida	University of Florida						
Donor history of diabetes? Yes/No	No	No						
If Yes, complete the next two lines if this information is available								
Diabetes duration (years)								
Glucose-lowering therapy at time of death								

RECOMMENDED INFORMATION								
Donor cause of death	Head Trauma	Head Trauma						
Warm ischaemia time (h)	Unknown	Unknown						
Cold ischaemia time (h)	Unknown	Unknown						

Estimated purity (%)	N/A	N/A			
Estimated viability (%)	N/A	N/A			
Total culture time (h)d	N/A	N/A			
Glucose-stimulated insulin secretion or other functional measuremente	N/A	N/A			
Handpicked to purity? Yes/No	No	No			
Additional notes	Islets isolated by laser capture from tissue sections	Islets isolated by laser capture from tissue sections			

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