

Variant	<i>In vitro</i>			<i>In vivo</i>			Ref
	GIP	RL	GIPR	Results	GIP	GIPR	
GIP(1-3)	B	P	Ha	Pancreas membranes: <i>No binding</i> (10 μ M)			(Maletti et al., 1986)
GIP(1-6)NH ₂	US	P	R	CHO-cells: No cAMP production, <i>no binding</i> (10 μ M)			(Hinke et al., 2001)
GIP(1-7)NH ₂	US	P	R	CHO-cells: No cAMP production, <i>no binding</i> (10 μ M)			
GIP(1-13)NH ₂	P	P	R	CHO-cells: 13% cAMP (20 μ M), 5% <i>binding</i> (10 μ M)			
GIP(1-14)NH ₂	P	P	R	CHO-cells: 73% cAMP (20 μ M), 28% <i>binding</i> (10 μ M)	P	R	26% insulin release (5 nM), sig. glucose decrease
					P	R	Pancreas perfusion: No insulin release (10 ng/ml)
GIP(1-14)	H	P	R	CHO-cells: Full agonist (cAMP), 51% <i>binding</i> (10 μ M)			(Hinke et al., 2001)
GIP(1-15)NH ₂	P	P	R	CHO-cells: 4% cAMP (20 μ M), 4% <i>binding</i> (10 μ M)			
GIP(1-15)	P	P	R	CHO-cells: No cAMP production, <i>no binding</i> (10 μ M)			
GIP(1-16)	B	P	H	<i>No binding</i> (10 μ M)			(Maletti et al., 1986)
	US		US/R	CHL: 35% cAMP, BRIN-BD11: 10-50% insulin (1 μ M)			(Gault et al., 2002)
	US		R	BRIN-BD11: Insulin 1.4 fold of basal (1 μ M)	US	M	Ob/ob: No effect on glucose/insulin (25 nmol/kg)
GIP(1-30)NH ₂	P		R	CHO-cells and L293-cells: Full agonist (cAMP), EC ₅₀ equal to GIP(1-42). IC ₅₀ 2.0 nM. RINm5F: cAMP full agonism, 10-fold decreased EC ₅₀ . 10-fold decreased IC ₅₀	P	R	Equal glucose decrease (1pmol/min/100 g) Pancreas perfusion: Full insulin response (5 nM) Pancreas perfusion: Full insulin response, 65% reduced somatostatin response (1 ng/ml)
					US	R	Pancreas: Full insulin response (1 nmol/kg/h) Stomach: 10-fold lower gastric acid-inhibition (10 nmol/kg/h)
GIP(1-30)OH	Hu	P	P	CHO-cells: 11-fold decreased IC ₅₀ than pGIP(1-42)	Hu	R	Pancreas perfusion: Full insulin response (1 nM)
GIP(1-38)					P	R	Pancreas perfusion: Full insulin response (UC)
GIP(1-39)					B	R	Pancreas perfusion: Full insulin response (1 nM)
GIP(6-30)NH ₂	P	P	R	CHO-cells: cAMP: 58% inhibition (0.1 μ M), equal IC ₅₀			(Gelling et al., 1997)
GIP(7-30)NH ₂	P	P	R	CHO-cells: No cAMP production (20 μ M), IC ₅₀ in nM-range, IC ₅₀ 23.7 nM L293-cells: cAMP inhibition IC ₅₀ 0.1 μ M. IC ₅₀ 200 nM	P	R	Anesthesia: 100 nmol/kg abolishes 1.5 nmol/kg GIP-insulin secretion and reduces meal-induced insulin with 55%.
	P	P	R	CHO-cells: 10 μ M decreases 1 nM GIP-cAMP by 34% IC ₅₀ 177 nM	US	R	3 μ g/250 g: 30% inhibition of glucose-induced insulin, 15% plasma glucose, 54% meal-induced insulin. 20 μ g/kg reduced glucose-uptake 30%.
GIP(10-30)	P	P	R	CHO: 50%-inhi. cAMP (10 μ M). 187 fold decreased IC ₅₀			(Gelling et al., 1997)
GIP(15-30)NH ₂	P	P	R	CHO: cAMP, antagonism (10 μ M): 30 % of GIP(7-30) IC ₅₀ 1400 nM	P	R	Pancreas perfusion: No insulin release (1 ng/ml)
GIP(16-30)NH ₂	P	P	R	CHO: cAMP, antagonism(10 μ M): 20 % of GIP(7-30) IC ₅₀ 2530 nM. L293-cells: No cAMP or GIP-inhib.(10 nM)			(Hinke et al., 2001, Morrow et al., 1996)
GIP(17-30)NH ₂	P	P	R	CHO: cAMP, antagonism (10 μ M): 30 % of GIP(7-30) IC ₅₀ 1540 nM	P	R	Pancreas perfusion: 38% insulin release (1 ng/ml)
	US		US	CHL-cells: 1 μ M inhibits cAMP (0.1 μ M GIP) 15% BRIN-BD11: 1 μ M inhibits insulin (0.1 μ M GIP) 11%			(Gault et al., 2002)
	P	P	P	CHO: No cAMP production, <i>no binding</i> (1 μ M)			(Wheeler et al., 1995)
GIP(18-28)	Hu	P	P	CHO: <i>No binding</i> (1 μ M)			
GIP(19-30)NH ₂	P	P	R	CHO-cells: 40% cAMP production (20 μ M), 52% <i>binding</i> (10 μ M)	P	R	Pancreas perfusion: 60% insulin release (1 ng/ml) Anesthesia: Sig. glucose decrease (100 pmol/min/100g)
	P	P	R	CHO-cells: No cAMP (1 μ M), <i>no binding</i> (1 μ M)			(Wheeler et al., 1995)
	B	P	Ha	Pancreas membranes: <i>No binding</i>			(Maletti et al., 1986)
GIP(21-30)NH ₂	P		R	L293-cells: No activity, no inhibition of pGIP(1-42)			(Tseng et al., 1996)
GIP(21-26)	Hu	P	P	CHO-cells: <i>No binding</i> (1 μ M)			(Wheeler et al., 1995)
GIP(3-42)	US		R	BRIN-BD11: 30% cAMP (EC ₅₀ \approx nM) and 1 μ M inhibits 45%. 70% inhibition of insulin release by 1 μ M			(Kerr et al., 2011)
	P	US	R	COS-cells: No cAMP IC ₅₀ \approx nM, 10 fold reduced affinity	P	R	Pan.perfusion: Inhibition of insulin, IC ₅₀ 138 nM
GIP(4-42)	B	P	Ha	Pancreas membranes: IC ₅₀ 5 nM			(Maletti et al., 1986)
	US		R	BRIN-BD11: 50% cAMP, 30% inhibition of insulin (1 μ M)	M		Ob/ob: Glucose increase (25 nmol/kg)
	US		US	CHL-cells: 1 μ M inhibits cAMP (0.1 μ M GIP) 40% BRIN-BD11: 1 μ M inhibits insulin (0.1 μ M GIP) 23%			(Gault et al., 2002)
GIP(5-42)	US		R	BRIN-BD11: 35% cAMP (1 μ M), insulin-inhibition 70%	M		Ob/ob: Glucose increase (25 nmol/kg)
GIP(6-42)	US		R	BRIN-BD11: 80% cAMP (1 μ M), insulin-inhibition 40%			(Kerr et al., 2011)
GIP(7-42)	US		R	BRIN-BD11: 65% cAMP (1 μ M), insulin-inhibition 55%	M		Ob/ob: Glucose increase (25 nmol/kg)
GIP(8-42)	US		R	RINm5F: 30-fold decrease of GIP(1-42) potency (5 μ M)			(Cheng et al., 2015)
	US		R	BRIN-BD11: 16% cAMP (1 μ M), insulin-inhibition 65%	M		Ob/ob: 1.4 fold glucose increase, sig. insulin decrease (25 nmol/kg)
GIP(9-42)	US		R	BRIN-BD11: 100% cAMP (1 μ M), 100% insulin secretion			(Kerr et al., 2011)
GIP(13-42)	H		H	Isothermal titration calorimetry: 6-fold lower affinity			(Parthier et al., 2007)
GIP(15-42)	P	P	R	CHO: cAMP, antagonism (10 μ M): 40 % of GIP(7-30) IC ₅₀ 1270 nM	P	R	Pancreas perfusion: 40% insulin response (10ng/ml)
	H		H	Isothermal titration calorimetry: 10-fold lower affinity			(Kerr et al., 2011, Hinke et al., 2001, Pederson and Brown, 1976)
GIP(17-42)	B	P	Ha	Pancreas membranes: IC ₅₀ 0.5 μ M	B	R	Pan.perfusion: 32% insulin response (5 ng/ml)
	US	US	R	RINm5F-cells: No cAMP production (1 μ M) IC ₅₀ 0.4 μ M			(Maletti et al., 1986)
	H		H	Isothermal titration calorimetry: 15-fold lower affinity			
GIP(19-42)	H		H	Isothermal titration calorimetry: 17-fold lower affinity			
GIP(21-42)	H		H	Isothermal titration calorimetry: 100-fold lower affinity			(Parthier et al., 2007)
GIP(23-42)	H		H	Isothermal titration calorimetry: <i>No binding</i>			
GIP(31-44)	P		R	L293-cells: No cAMP or pGIP inhibition (10 nM)			(Tseng et al., 1996)

Supplementary Table 1. The table displays the in vitro and in vivo references to figure 8, overview of truncated GIP variants. Percentages compared to full agonist GIP(1-42) or GIP(1-30) results. Affinity data is in *italic*. GIP = species sequence of ligand, RL = GIP(1-42) radioligand, GIPR = GIP receptor, B = bovine, P = porcine, R = rat, M = mouse, Ha = hamster, Hu = human, US = unknown species, UC = unknown concentration.

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