

Diabetes / Diabetologia Reproducibility Checklist
generated 2026-05-02 UTC by IsletPerifusionAnalyzer

Item	Requirement	Reported value
Sample source	species, sex, donor ID / strain, age, BMI	primary_mouse_islet; INS-1_832/13; iPSC-SC-beta_D21; primary_human_islet; primary_mouse_islet
IEQ / cell number / protein	report which normalization basis was used	IEQ basis = 100.0
Culture conditions	media, glucose, FBS, days post-isolation	[fill in]
Perifusion system	vendor (BioRep / Brandel / in-house), chamber volume, tubing length	in-house
Flow rate	mL/min and stability check (CV < 5%)	0.1 mL/min
Dead volume + transit time	uL and computed lag (min)	100.0 uL → 1.00 min
Stimulation protocol	glucose steps (mM, min), secretagogues (uM, min)	2.8/16.7 mM glucose 10/30 min + 30 mM KCl 10 min
Reference KCl peak	30 mM, intra-batch CV (target ≤ 15%)	30 mM, CV 11.49%
Assay	ELISA / Luminex / HTRF; LLOD; ULOQ; intra-/inter-assay CV	[fill in]
Standard curve	linear range, R ² , fit method	[fill in]
Degradation correction	storage hours, decay rate applied	[fill in]
Baseline subtraction	pre-stimulus window, mean ± 2SD	[fill in]
Data exclusions	criteria for failed channels	[fill in]
Statistical test	n, replicates, test, multiplicity correction	[fill in]
Code + raw data	DOI / repo for raw CSV + analysis scripts	[fill in]

Auto-detected pass/fail

- KCl intra-batch CV: **11.49** (threshold ≤ 15%)
- KCl normalization gate: **PASS**
- Channels analyzed: 25
- Files parsed: 5

Disclaimer

[Disclaimer] This tool is for research/reference only; not for direct clinical decision use.