FractaLPK — Auto-Diagnose Report

Dataset: **PopPK NONMEM (12 subjects, oral)** · Generated: 2026-05-03 20:10 UTC · ID: ed0011c57d

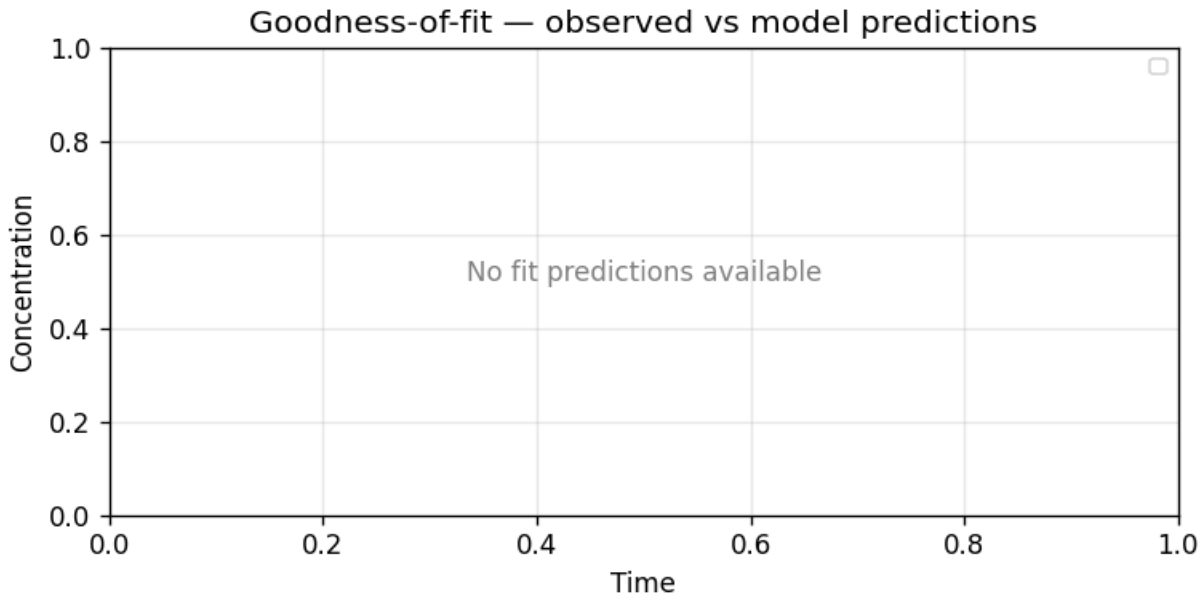
Input data summary

Detected data type	—
Detection confidence	high
Submodule invoked	auto_analyze population mean curve (Classical / Panos / Fractional)
Rows × columns	108 × 7
Subjects	12
Recognised columns	ID=ID, TIME=TIME, DV=DV, AMT=AMT, EVID=EVID, MDV=MDV, CMT=CMT

Verdict

Best model	—
AIC (winner)	—
R^2 (winner)	—
Wall time (s)	9.518898800000898
Interpretation	Classical kinetics confirmed. Standard NCA/compartmental analysis is appropriate.

Goodness-of-fit



Model comparison

Rank	Model	Params	R^2	AIC
1	Classical 1-CMT	3	1.0000	-49.30
2	FractaLPK Fractional	4	0.9993	-11.30
3	PBFTPK (Panos ODE)	4	-7.9479	73.30

Parameters of the winning model

Parameter	Estimate
classical	{'name': 'Classical 1-CMT', 'n_params': 3, 'R2': np.float64(1.0), 'OFV': np.float64
panos	{'name': 'PBFTPK (Panos ODE)', 'n_params': 4, 'R2': np.float64(-7.9479), 'OFV
fractional	{'name': 'FractaLPK Fractional', 'n_params': 4, 'R2': np.float64(0.9993), 'OFV': n

Methodological note

Population PK pipeline. Three structural candidates fitted in parallel: classical 1-CMT, power-law absorption (Panos), and fractional Mittag-Leffler. Best model selected by AIC.

Limitations

Current scope: Population PK (1-CMT classical, power-law, fractional Mittag-Leffler) and dissolution (4-model fitter). Other data types (mAb/ADC, tumor growth, multi-species) are detected but require manual confirmation. Multi-CMT (2-CMT/3-CMT), TMDD, per-subject heterogeneity, and mixture models are in development.