

**Table 1.** Abbreviations used for each dataset

Abbreviation	Reference	Type of Study	Detection	Abundance measure	Media	Growth phase
LU	Lu et al. 2007	Mass spectrometry	label-free spectral counting	absolute	YPD	mid-log
PENG	Peng et al. 2012	Mass spectrometry	label-free spectral counting and ion volume based quantitation	absolute	Minimal	early log
KUL	Kulak et al. 2014	Mass spectrometry	label-free peak-based spectral counting	absolute	YPD	mid-log
LAW	Lawless et al. 2016	Mass spectrometry	stable-isotope labeled internal standards and selected reaction monitoring	absolute	Minimal	chemostat
LAHT	Lahtvee et al. 2017	Mass spectrometry	SILAC and peak intensity-based absolute quantification	absolute	Minimal	chemostat
DGD	de Godoy et al. 2008	Mass spectrometry	SILAC and ion chromatogram based quantification	relative	Minimal	mid-log
PIC	Picotti et al. 2009	Mass spectrometry	stable-isotope labeled internal standards and selected reaction monitoring	relative	YPD	mid-log
LEE2	Lee et al. 2011	Mass spectrometry	isobaric tagging and ion intensities	relative	YPD	mid-log
THAK	Thakur et al. 2011	Mass spectrometry	summed peptide intensity	relative	Minimal	mid-log
NAG	Nagaraj et al. 2012	Mass spectrometry	spike-in SILAC	relative	YPD	mid-log
WEB	Webb et al. 2013	Mass spectrometry	label-free spectral counting	relative	YPD	mid-log
TKA	Tkach et al. 2012	GFP-microscopy	live cells; confocal	relative	Minimal	mid-log
BRE	Breker et al. 2013	GFP-microscopy	live cells; confocal	relative	Minimal	mid-log
DEN	Denervaud et al. 2013	GFP-microscopy	live cells; wide field	relative	Minimal	steady-state
MAZ	Mazumder et al. 2013	GFP-microscopy	fixed cells; wide field	relative	Minimal	mid-log
CHO	Chong et al. 2015	GFP-microscopy	live cells; confocal	relative	Minimal	mid-log
YOF	Yofe et al. 2016	GFP-microscopy	N-terminal GFP; live cells; confocal	relative	Minimal	mid-log
NEW	Newman et al. 2006	GFP-flow cytometry	live cells	relative	YPD	mid-log
LEE	Lee et al. 2007	GFP-flow cytometry	live cells	relative	YPD	mid-log
DAV	Davidson et al. 2011	GFP-flow cytometry	live cells	relative	YPD	mid-log
GHA	Ghaemmaghami et al. 2003	TAP-immunoblot	SDS extract; immunoblot with internal standard	absolute	YPD	mid-log