

**Table S1. Literature values for acceleration of *S. cerevisiae* Rab family GTPase activities by Gyp proteins**

<b>GAP for Ypt/Rab</b>	<b>Sec4</b>	<b>Sec4 (L79P)</b>	<b>Ypt1</b>	<b>Ypt6</b>	<b>Ypt7</b>	<b>Ypt7 (Q68L)</b>	<b>Ypt31</b>	<b>Ypt32</b>	<b>Vps21</b>	<b>Ypt52</b>	<b>Ypt53</b>	<b>Reference</b>	<b>URL</b>
Gyp1	92	66	59	2	53	53		1	21			Du et al., 1998	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YOR070C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YOR070C</a>
Gyp1-46 (TBC)	182		70	5	80	80	2		150			Albert et al., 1999	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YOR070C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YOR070C</a>
Gyp2/Mdr1	290		3	344	6	6	5	5	5	1	2	Albert and Gallwitz, 1999	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YGR100W">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YGR100W</a>
Gyp3/Msb3	1,600	110	45	560	20	20	110	47	320	3	15	Albert and Gallwitz, 1999	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YNL293W">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YNL293W</a>
Gyp4/Msb4	109		33	300	230	230	49	16	26	1.6	3.5	Albert and Gallwitz, 2000	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YOL112W">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YOL112W</a>
Gyp5-58 (TBC)	24		150	2	1	1	1	1	1.6	1.4	1	De Antoni et al., 2002	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YPL249C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YPL249C</a>
Gyp6	1		1	>100	11	11						Strom et al., 1993	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YJL044C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YJL044C</a>
Gyp7	1.6		6	1	40	40	18	16				Vollmer et al., 1999	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YDL234C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YDL234C</a>
Gyp7	5		3	35	230	230	12		2			Albert et al., 1999	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YDL234C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YDL234C</a>
Gyp7-47 (TBC)	3		2	22	230	230	9		2			Albert et al., 1999	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YDL234C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YDL234C</a>
Gyp8-49 (TBC)	170		460	1,900	7	7	Ypt31	43	7	1.5	7	De Antoni et al., 2002	<a href="http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YFL027C">http://db.yeastgenome.org/cgi-bin/locus.pl?locus=YFL027C</a>

Values are relative to intrinsic (unstimulated) rates of hydrolysis. Note that these assays were performed differently in different studies, so values are not directly comparable between different studies. Values are rounded to two significant digits.

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