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Dr. Shaker`s Recommendation

	Mammalian Cell culture		Insect Cells	Plant Cell culture
TubeSpin 50	**CHO**	**HEK-293**	**SF-9**	***N. tabacum* BY-2**
Shaking Speed [rpm]	180 - 250	180 - 250	180 - 250	180 - 250
Throw [mm]	50	50	50	50
Working Volume [mL]	15 - 30	15 - 30	5 - 10	5 - 10

	Mammalian Cell culture		Insect Cells	Plant Cell culture
TubeSpin 600	**CHO**	**HEK-293**	**SF-9**	***N. tabacum* BY-2**
Shaking Speed [rpm]	180 - 250	180 - 250	180 - 250	180 - 250
Throw [mm]	50	50	50	50
Working Volume [mL]	300	300	200	150

Methods from Literature

TubeSpin 50	**CHO**	**CHO**	**CHO**	**CHO**	**SF-9**
Shaking Speed [rpm]	180-300	160-200	140	200	160-200
Throw [mm]	50	n.s.	50	25	n.s.
Working Volume [mL]	14-34	10-35	5-10	5	10-35
Reference	Strnad (2010), Biotechnol. Prog.: Vol. 26 (3); pp 653-663	Xie (2011), Cytotechnology: Vol. 63 (4); pp 345-350	Stettler (2007), Biotechnol. Prog.: Vol. 23 (6); pp 1340 -1346	De Jesus (2004), Biochem. Eng. Journal: Vol 17, No. 3; pp 217 - 223	Shen (2011), BMC Proc.: 5 (Suppl 8); P37

TubeSpin 600	**CHO**	***Crypthecodinium cohnii*** (marine microalgae)
Shaking Speed [rpm]	120-220	230
Throw [mm]	50	25
Working Volume [mL]	300	100
Reference	Monteil (2013), Biochem. Eng. Journal; Vol. 76, pp 6–12	Hillig (2014), Adv Biochem Eng Biotechnol; Vol. 138: pp 179-206