

Table S3 Percent growth inhibition of HT-29 colon cancer cells by CO97216-1P/P extracts (mg·mL⁻¹ cell culture medium) after 24 hours. Data are means of all replicates (%). Three biological replicates were tested except where indicated as n = (). % Growth inhibition data represented in this table were ratio transformed to conduct Tukey's HSD analysis. Means followed by the same letter are not significantly different based on Tukey's HSD, P=0.05. Data are not available for n/a because not tested. Table does not reflect all significant comparisons.

Potato Extract Concentration [mg·mL ⁻¹ cell culture medium]	Raw				Boil (97 °C)			
	2008 (n)	2009 (n)	2010 (n)	Mean	2008 (n)	2009 (n)	2010 (n)	Mean
Stage II Immature								
3.6	38.4 (5) a b c	14.9 (5) b c	0 c	18	n/a n/a	n/a n/a	0 c	0
7.2	32.2 (5) a b c	57.2 (5) a	47.3 a b	45.6	n/a n/a	n/a n/a	0 c	0
14.4	310 (5) a b c	42.4 (5) a b	38.8 a b c	37.4	n/a n/a	n/a n/a	0 c	0
Stage III Intermediate								
3.6	n/a n/a	n/a n/a	0 c	0	n/a n/a	n/a n/a	0 c	0
7.2	n/a n/a	n/a n/a	8.9 b c	0	n/a n/a	n/a n/a	0 c	0
14.4	n/a n/a	n/a n/a	34.5 a b c	0	n/a n/a	n/a n/a	0 c	0
Stage IV Intermediate								
3.6	n/a n/a	n/a n/a	0 c	0	n/a n/a	n/a n/a	0 c	0
7.2	n/a n/a	n/a n/a	0 c	0	n/a n/a	n/a n/a	0 c	0
14.4	n/a n/a	n/a n/a	16.3 b c	16.3	n/a n/a	n/a n/a	0 c	0
Stage V Mature								
3.6	0 c	0 c	0 c	0	n/a n/a	n/a n/a	0 c	0
7.2	0 c	0 c	17 c	0.6	n/a n/a	n/a n/a	0 c	0
14.4	0 c	4.1 c	30.1 a b c	11.4	n/a n/a	n/a n/a	13.4 b c	13.4
Stage V (6 month storage)								
3.6	n/a	n/a	n/a	n/a	n/a n/a	n/a n/a	n/a n/a	n/a
7.2	0 c	n/a	n/a	0	n/a n/a	n/a n/a	n/a n/a	n/a
14.4	n/a	n/a	n/a	n/a	n/a n/a	n/a n/a	n/a n/a	n/a

Table S5 Three to five biological replicates of cultivars and selections were harvested during specified years and utilized in different phases of research to examine differences in inhibitory activity due to developmental stage, cooking mode, caspase -3 activities, preparation processes, plant components and thermal degradation properties of heated extracts compared to heated tubers.

Cultivars and Clonal Selections	Developmental Stage (Tubers from Developmental Stage II, III, IV, V)	Cooking Mode: Raw (Tubers from Developmental Stage II, III, IV, V)	Cooking Mode: Boiled (Tubers from Developmental Stage II, III, IV, V)	Caspase-3 Protease Activity (Developmental Stage II Tubers)	Plant Component: Potato Peel vs. Potato Flesh vs. Whole Tuber (Developmental Stage II Tubers)	Plant Component: Potato Flower	Heated Extracts vs. Heated Tubers (Developmental Stage II Tubers Stored for 6 Months in Dark Conditions at 4 °C)	Preparation Process: Freeze Dried vs. Cryogenically Ground (Developmental Stage II Tubers Stored for 6 Months in Dark Conditions at 4 °C)
CO95 P2-3RU	2008, 2009, 2010	2008, 2009, 2010	2010		2011	2011	2010	2010
CO972 E-P/P	2008, 2009, 2010	2008, 2009, 2010	2010		2011		2010	2010
CO972E-3P/PW	2008, 2009, 2010	2008, 2009, 2010	2010					
CO972E-2R/R	2008, 2009, 2010	2008, 2009, 2010	2010					
CO9722-3P/PW	2008, 2009, 2010	2008, 2009, 2010	2010					
CO04058-7P/PW	2009, 2010	2009, 2010	2010					
CO04058-3RW/RW	2009, 2010	2009, 2010	2010	2010	2011	2011		
CO04061 R/RW	2009, 2010	2009, 2010	2010					
Colorado Rose	2008, 2009, 2010	2008, 2009, 2010	2010					
Mountain Rose	2008, 2009, 2010	2008, 2009, 2010	2010		2011			
Purple Majesty	2008, 2009, 2010	2008, 2009, 2010	2010		2011			
Rio Grande Russet	2008, 2009, 2010	2008, 2009, 2010	2010		2011			
Russet Nugget	2008, 2009, 2010	2008, 2009, 2010	2010		2011			

Table S6 Planting dates, harvest dates, days to maturity and growing degree days by year (2008-2011) defining developmental stages utilized in this research.

Developmental Stage	2008				2009				2010				2011			
	Planting Date	Harvest Date	Days to Maturity	Growing Degree Days	Planting Date	Harvest Date	Days to Maturity	Growing Degree Days	Planting Date	Harvest Date	Days to Maturity	Growing Degree Days	Planting Date	Harvest Date	Days to Maturity	Growing Degree Days
Stage I (Immature)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Stage II (Immature)	5th of May	30th of July	48	942.0	1st of June	n/a	33	852.5	18th of May	25th of July	50	945.5	25th of May	10th of August	29	1289.5
Stage III (Intermediate)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	18th of May	31st of July	44	1053.0	n/a	n/a	n/a	n/a
Stage IV (Intermediate)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	18th of May	7th of August	37	1163.5	n/a	n/a	n/a	n/a
Stage V (Mature)	5th of May	7th of September	0	1538.5	1st of June	1th of September	0	1284.0	18th of May	14th of September	0	1518.5	25th of May	8th of September	0	1794.0
Stage V - 6 m (Mature - 6 Months Storage)	5th of May	17th of February	+6 months	1538.5	1st of June	1th of September	+6 months	1284.0	18th of May	14th of February	+6 months	1518.5	n/a	n/a	n/a	n/a