Supporting information for Papasozomenos and Shanavas (January 22, 2001) *Proc. Natl. Acad. Sci. USA*, 10.1073/pnas.032646799.

Table 2. Initial rate kinase activities towards recombinant τ, bovine τ, and selective substrates in forebrain extracts of OVX female rats 0, 3, 6, and 12 h after heat shock with and without replacement therapy with EB or TP or both EB and TP

Gonadal hormone treatment kinase	Substrate	^{32}P cpm/1 μg of τ or various amounts of selective substrates * Control	0 h	3 h	6 h	12 h
Sham-OVX + SO		(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)
GSK-3β	htau40	2167 ± 249	3566 ± 468	4906 ± 873†	5858 ± 488†	2593 ± 395
	Bovine τ	1104 ± 223	2143 ± 307†	2832 ± 235†	2756 ± 245†	1828 ± 222
	PGSP-2	17528 ± 2438	32911 ± 3655†	39041 ± 2979†	47006 ± 5704†	25406 ± 5955
Cdk5	htau40	3034 ± 227	2807 ± 240	4168 ± 269†	6238 ± 820†	3831 ± 380†
	Bovine τ	1399 ± 237	1058 ± 157	2189 ± 322†	2834 ± 308†	1413 ± 260
	Histone H1	11391 ± 1774	8570 ± 1264	14672 ± 1633†	21137 ± 2738†	13494 ± 2239†
JNK	htau40	2273 ± 345	1517 ± 243†	3886 ± 501†	3764 ± 547†	2422 ± 222
	Bovine τ	1213 ± 277	900 ± 178	2006 ± 299†	2088 ± 341†	1179 ± 219
	c-Jun-GST	3163 ± 372	2173 ± 286†	6163 ± 774†	5646 ± 876†	4123 ± 580†
OVX + SO		(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)
GSK-3β	htau40	2081 ± 334	3312 ± 545	5342 ± 1133†	5431 ± 1286†	3090 ± 713
	Bovine τ	1198 ± 204	2162 ± 366†	2960 ± 363†	2736 ± 494†	1550 ± 245
	PGSP-2	17738 ± 2397	39325 ± 2382†	41351 ± 4480†	45794 ± 8731†	27205 ± 4141
Cdk5	htau40	3548 ± 265	3288 ± 367	5369 ± 360†	6282 ± 942†	4011 ± 484†
	Bovine τ	1586 ± 139	1324 ± 228	2522 ± 371†	3036 ± 290†	1655 ± 257
	Histone H1	10425 ± 1482	9750 ± 1231	13771 ± 667†	19876 ± 1113†	12928 ± 1123†
JNK	htau40	2240 ± 315	1760 ± 330†	3080 ± 255†	4086 ± 581†	2776 ± 599
	Bovine τ	1233 ± 158	814 ± 78	1964 ± 480†	2274 ± 579†	1519 ± 356
	c-Jun-GST	3569 ± 576	2448 ± 267†	6859 ± 1068†	5659 ± 876†	4486 ± 448†
OVX + EB		(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)
GSK-3β	htau40	2514 ± 591	4849 ± 1552†	5655 ± 1229†	6814 ± 1083†	3314 ± 735
	Bovine τ	1250 ± 276	2439 ± 399†	2587 ± 339†	3408 ± 425†	2026 ± 645
	PGSP-2	21857 ± 4180	39277 ± 3981†	41420 ± 4220†	52461 ± 8227†	23580 ± 4899
Cdk5	htau40	4091 ± 404	4793 ± 787	6945 ± 606†	8317 ± 945†	5651 ± 461†
	Bovine τ	1911 ± 140	1623 ± 156	3151 ± 407†	3008 ± 167†	1877 ± 485
	Histone H1	12106 ± 1023	11849 ± 1184	21065 ± 2223†	24681 ± 2645†	15805 ± 1706†
JNK	htau40	2623 ± 499	1737 ± 516†	4093 ± 598†	3624 ± 672†	3059 ± 532
	Bovine τ	1220 ± 162	777 ± 177	1887 ± 266†	2245 ± 305†	1445 ± 289
	c-Jun-GST	3353 ± 449	2460 ± 458†	6794 ± 824†	5944 ± 747†	4276 ± 464†
OVX + TP		(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)
GSK-3β	htau40	2128 ± 584	2851 ± 482	1962 ± 479	1995 ± 369	2129 ± 326
	Bovine τ	1185 ± 268	1620 ± 151	1146 ± 206	1200 ± 166	1326 ± 431
	PGSP-2	15922 ± 2783	22639 ± 3206	12984 ± 3025	12877 ± 1644	14395 ± 1467
Cdk5	htau40	3835 ± 634	3339 ± 550	6472 ± 567†	7461 ± 1373†	4338 ± 1006†
	Bovine τ	1564 ± 189	1567 ± 251	2702 ± 265†	3149 ± 275†	2222 ± 374
	Histone H1	10619 ± 1729	11518 ± 2179	16959 ± 3224†	18556 ± 1508†	11997 ± 2795†
JNK	htau40	2522 ± 478	1468 ± 353†	3870 ± 800†	4240 ± 872†	3389 ± 608
	Bovine τ	1075 ± 194	724 ± 166	2197 ± 506†	1829 ± 394†	1283 ± 256
	c-Jun-GST	3447 ± 428	2737 ± 467†	6326 ± 498†	7170 ± 1228†	4656 ± 572†
OVX + (EB + TP)		(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)	(*n* = 3)
GSK-3β	htau40	1955 ± 407	2587 ± 311	1932 ± 366	1889 ± 431	1971 ± 371

	Bovine τ	1253 ± 322	1645 ± 252	1032 ± 1221	992 ± 195	1195 ± 65
	PGSP-2	12608 ± 2697	19896 ± 4190	12213 ± 2479	11179 ± 2878	13403 ± 2016
Cdk5	htau40	3606 ± 425	3539 ± 510	5988 ± 770†	6246 ± 1161†	4768 ± 860†
	Bovine τ	1774 ± 257	1731 ± 212	3180 ± 380†	3418 ± 372†	1797 ± 199
	Histone H1	10670 ± 2568	9658 ± 613	18694 ± 1670†	17637 ± 2904†	13688 ± 2489†
JNK	htau40	2529 ± 487	1728 ± 340†	4412 ± 842†	3754 ± 523†	3038 ± 486
	Bovine τ	1078 ± 263	817 ± 119	2017 ± 307†	1909 ± 455†	1321 ± 241
	c-Jun-GST	4388 ± 666	2483 ± 467†	6710 ± 612†	6912 ± 1093†	4311 ± 1168†

*, PGSP-2, 3.79 μg; histone H1 and c-Jun-GST, 1 μg each. *n*, number of rats (total, $n = 75$).
†, $P < 0.05$ in comparison with respective controls (Tukey test). Data are means ± SD.