



Poster Board # P1-721

Effect of One Week of Proton Pump Inhibitor Therapy on Serum and Plasma Chromogranin A Concentrations

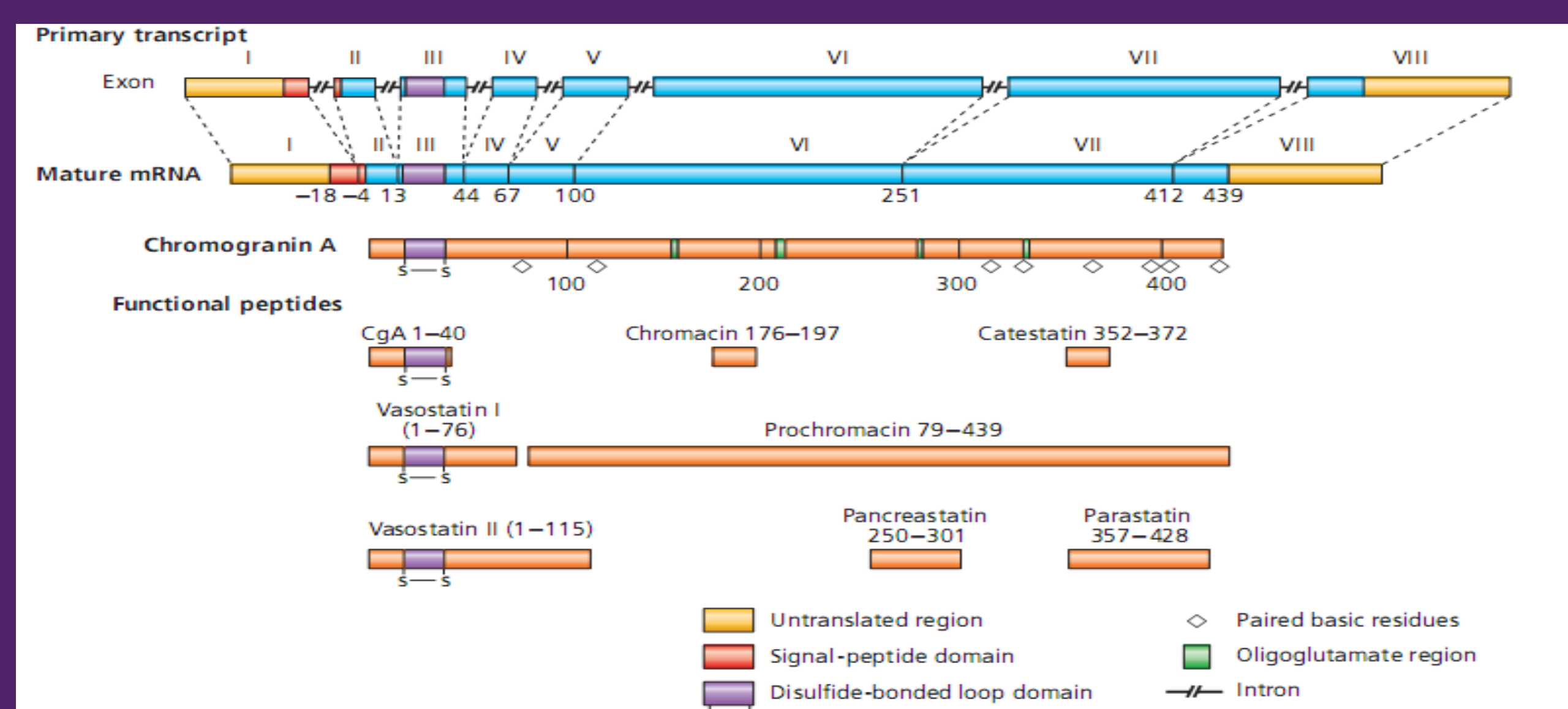
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Background:

- ✧ **Chromogranin A (CgA)**
 - ✧ Sensitive marker of neuroendocrine tumours
 - ✧ Used for diagnosis, prognosis and for monitoring of response to therapy.
- ✧ Use of Proton Pump Inhibitors (PPI's) increases production of CgA.
- Except for some case reports, there is no information on the extent to which PPIs increase CgA, or on the duration of the effect after discontinuation of PPIs.



Peptide coding regions and putative functional domains of human chromogranin A. Reprinted from Taupenot L, Harper KL, O'Connor DT. The chromogranin-secretogranin family. N Engl J Med. 2003;348:1134-49. Copyright © 2003 Massachusetts Medical Society. All rights reserved.

Methods:

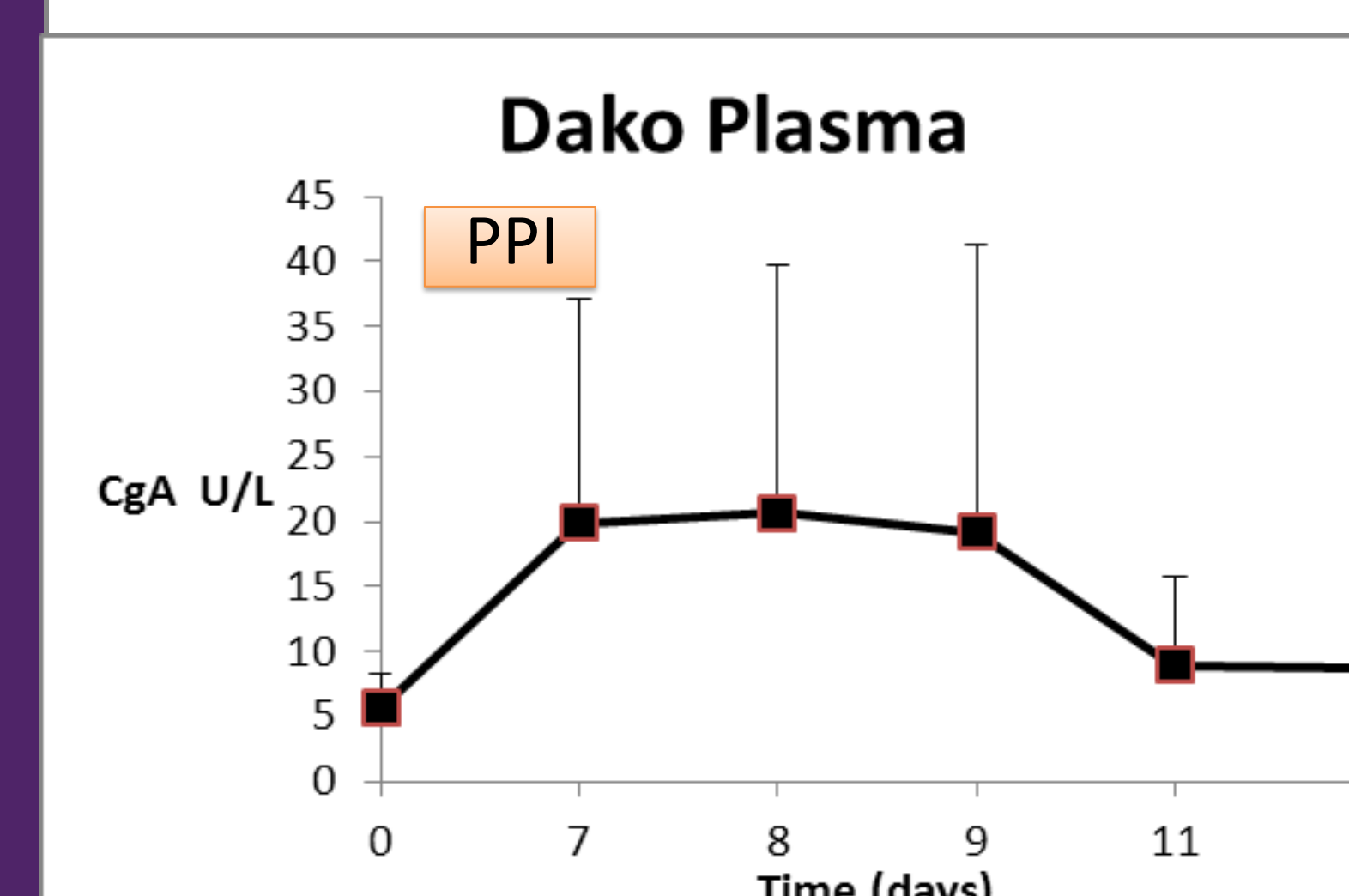
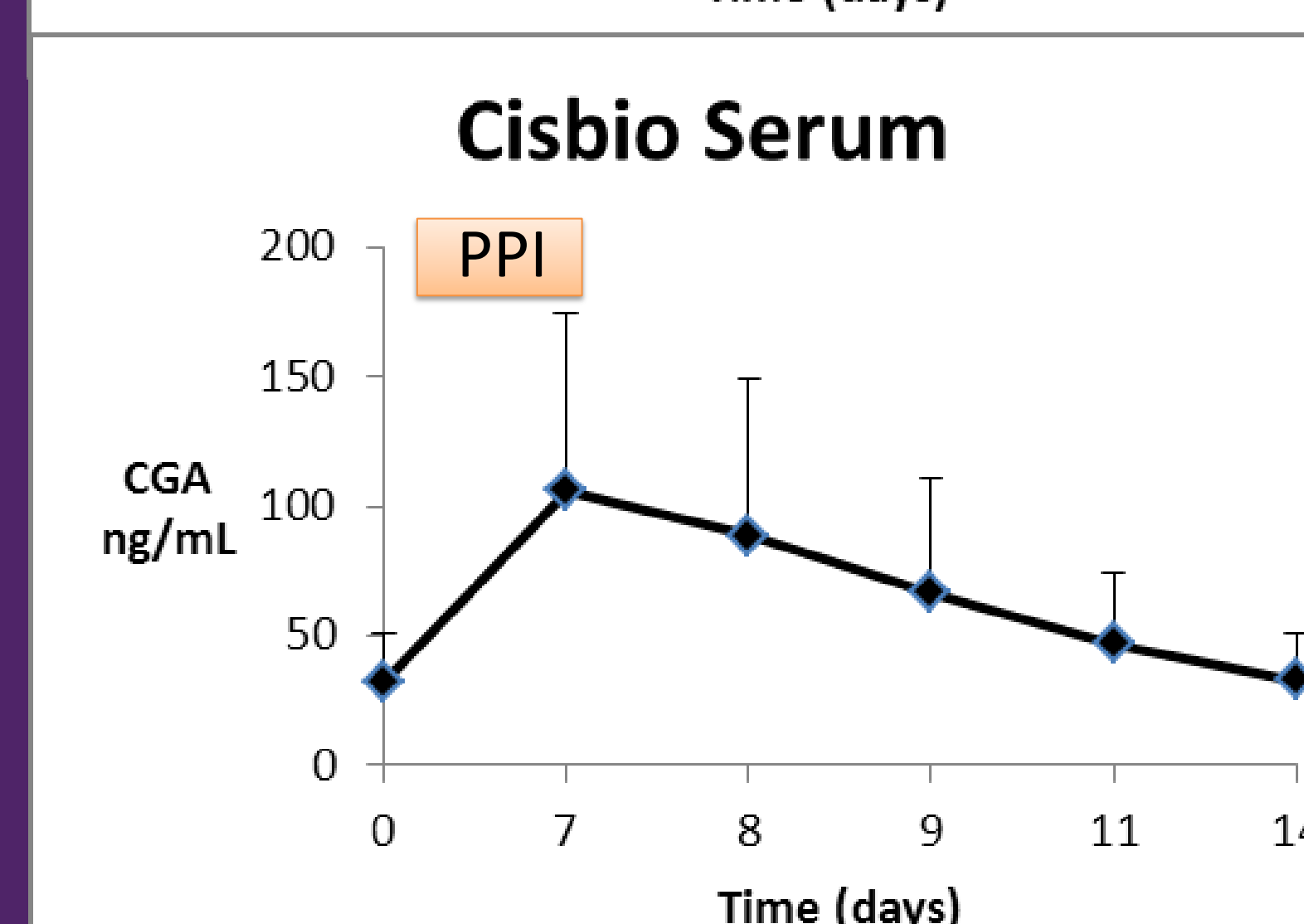
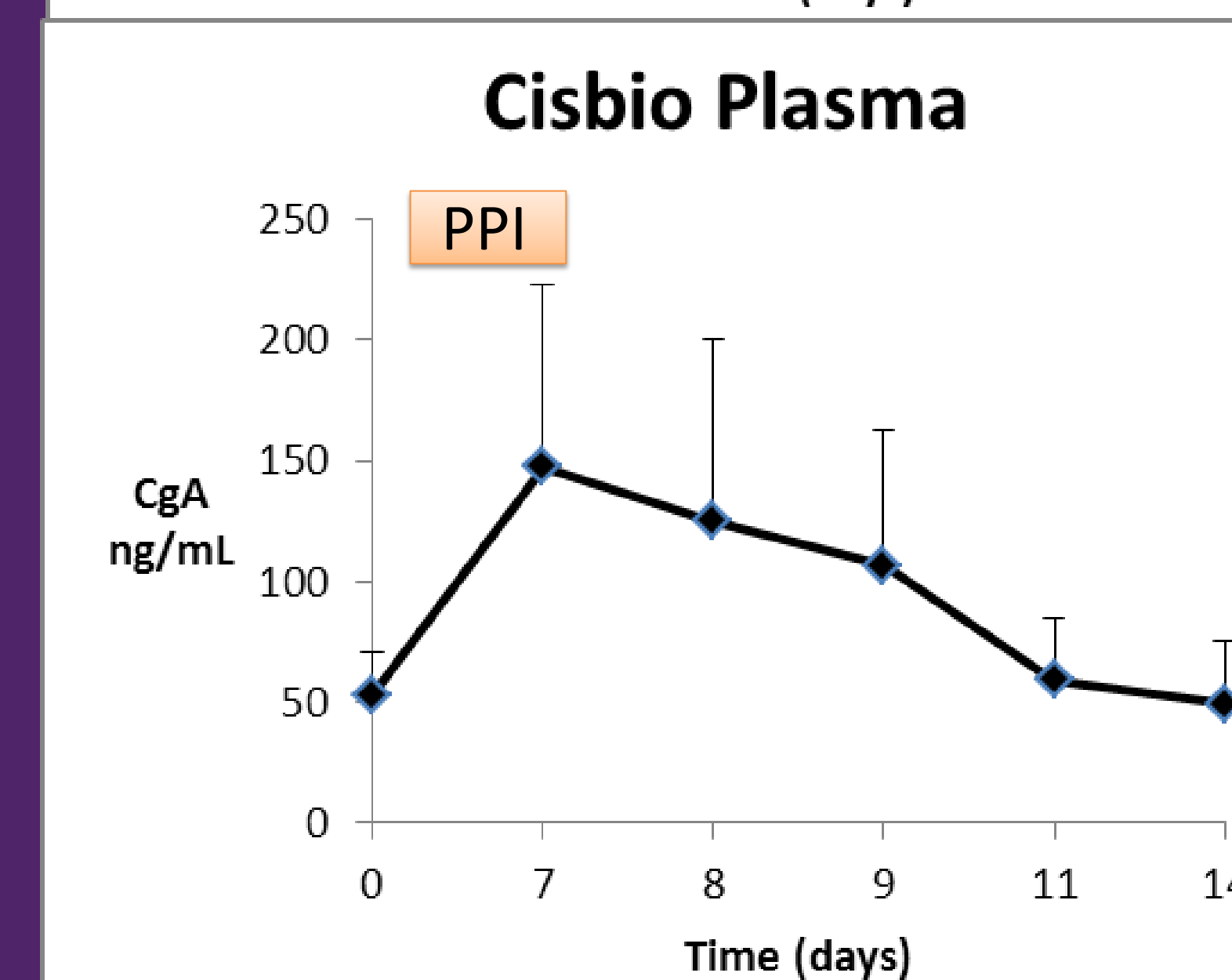
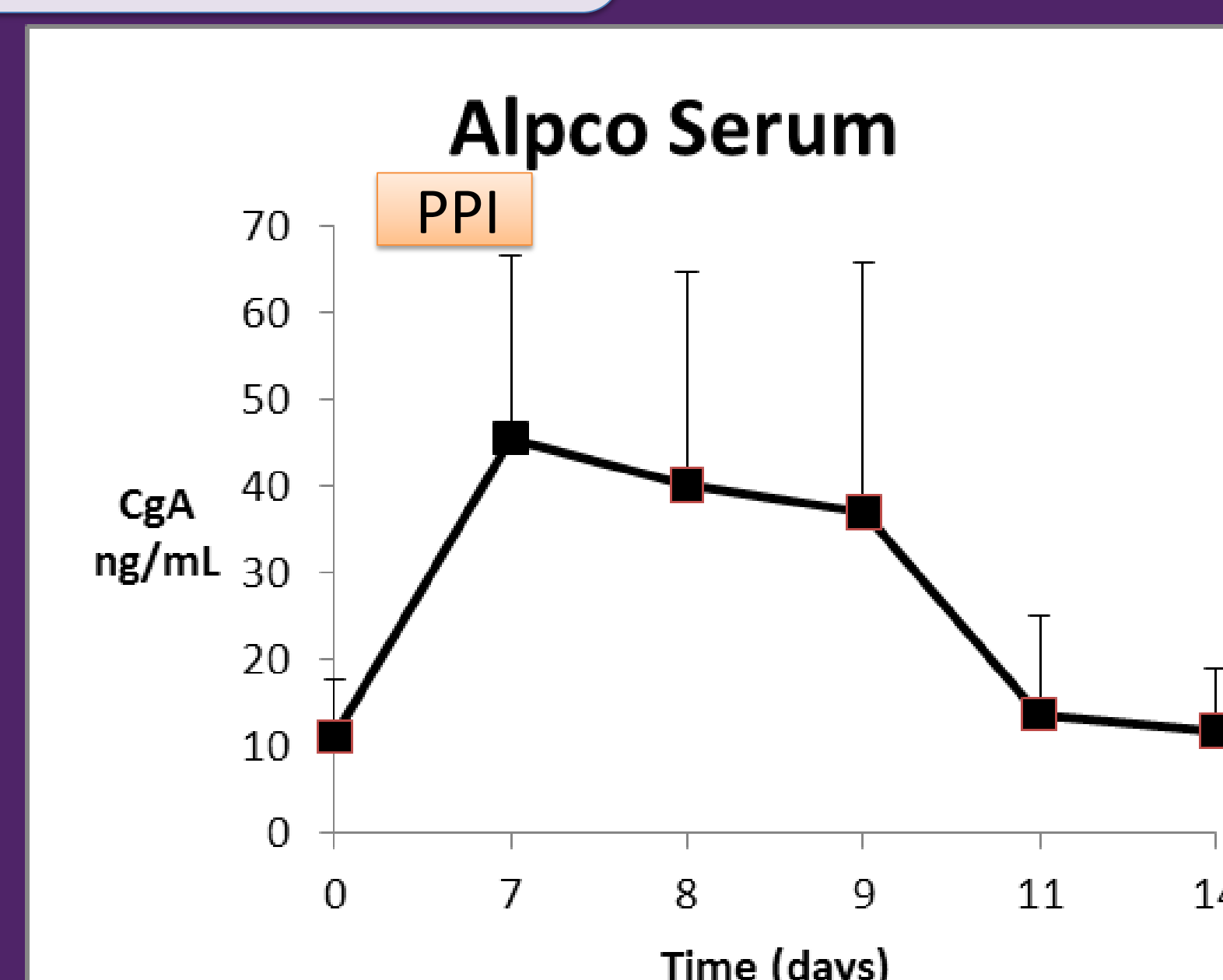
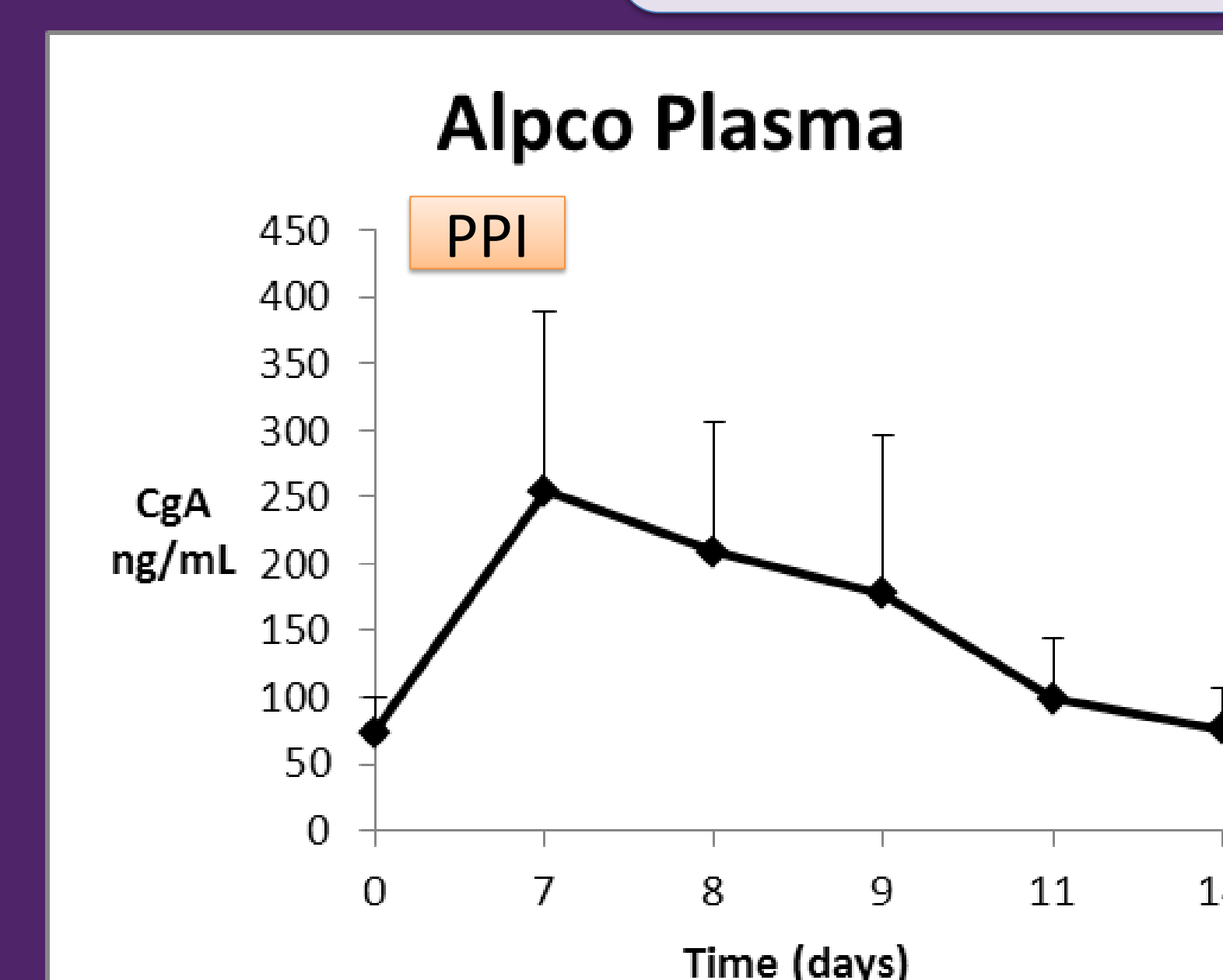
- ✧ Healthy subjects took bedtime lansoprazole 30 mg X 7 days.
- ✧ Fasting blood samples for CgA were obtained at days 0 and 7, and also 1, 2, 4, and 7 days after discontinuation of the PPI.
- ✧ CgA levels were measured in
 - ✧ Serum and plasma using Alpco and CisBio assays,
 - ✧ Plasma using the Dako assay.

Participants

Male/Female	5/9
Age (years)	32.7±14.8
Weight (Kg)	69.9±15.9
Alcohol (#/day)	0.4±0.5
Cigarettes/Day	1±4
Height (cm)	164±9
BMI (Kg/m ²)	25.7±4.8
Systolic BP (mmHg)	115±8
Diastolic (mmHg)	70±8
Heart Rate (Beats/Minute)	74±11
eGFR (mL/min/1.73m ²)	111±16

Data are presented as mean ± SD unless indicated otherwise.
BP= Blood Pressure; eGFR= estimated Glomerular Filtration Rate

Results



Relative Increase in CgA following PPI

Assay	Increase (% mean±SD)
Alpco Plasma	212 ±135
Alpco Serum	376 ± 271
Cisbio Plasma	251 ± 137
Cisbio Serum	309 ± 185
Dako Plasma	340 ± 301

Results are presented as percentage on day 7 As compared to baseline

Select References:

1. Neuroendocrine tumors of the gastro-entero-pancreatic system. Massironi S, Sciola V, Peracchi M, Ciafardini C, Spampatti MP, Conte D. World J Gastroenterol 2008; 14:5377-84
2. Impact of chromogranin A measurement in the work-up of neuroendocrine tumors, E. Baudin, J. M. Bidart, A. Bachelot, M. Ducreux, D. Elias, P. Ruffle & M. Schlumberger, Annals of Oncology 12 (Suppl. 2): S79-S82, 2001.
3. Effect of short-term treatment with low dosages of the proton-

Conclusion:

- ✧ Use of PPIs for at least one week results in a more than 3-fold increase in CgA concentrations, this effect takes up to a week to disappear.
- ✧ There is major variation in CgA concentrations not only between assays, but also for the plasma versus serum CgA when using the same assay.
- ✧ This should be kept in mind when interpreting CgA results for diagnosis of and monitoring of neuroendocrine tumors.

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