

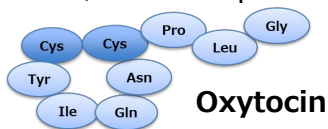
Development of a Novel Highly Sensitive Oxytocin ELISA

Naomi Tsurutani¹, Shiro Sugino², Masaki Kojima³, Fumie Akutsu³, and Takahiro Nishibu²

¹FUJIFILM Wako Chemicals USA, ²FUJIFILM Wako Pure Chemical, ³FUJIFILM Wako Shibayagi

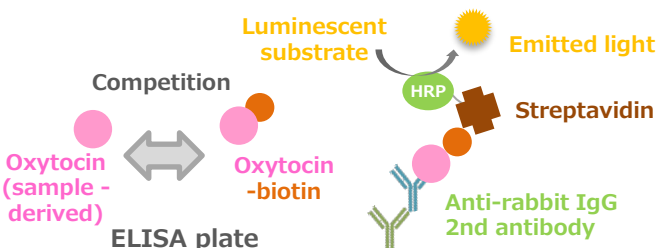
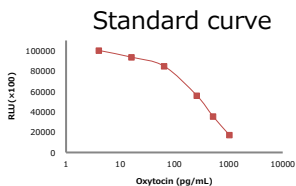
I. INTRODUCTION

Oxytocin is a peptide hormone comprising nine amino acids. It is produced in the hypothalamus and released mainly from the posterior pituitary gland following childbirth and during lactation, and it promotes uterine contraction and milk production. It also has stress-relieving, anxiolytic, and fear-reducing effects and plays a role in the development of maternal behavior. Due to these properties, oxytocin is often referred to as the "happy hormone" or "love hormone." Recently, oxytocin has attracted much attention in treating mental disorders such as depression, autism, and schizophrenia.



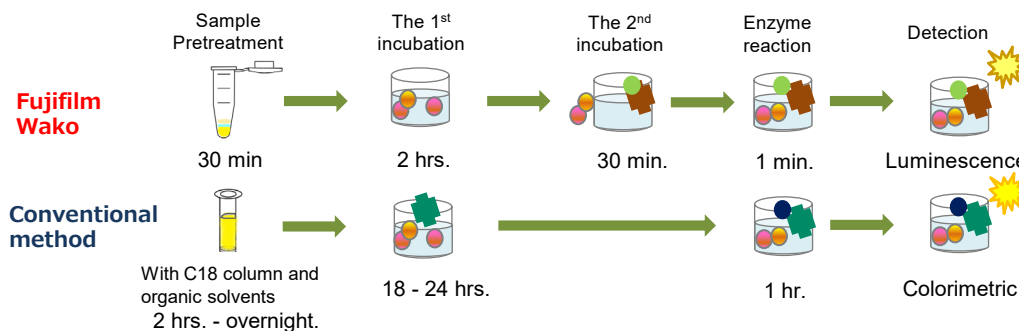
II. ASSAY PRINCIPLE

We constructed an oxytocin competition ELISA with high sensitivity (4 pg/mL) using biotin-labeled, streptavidin-conjugated HRP and luminescent substrate.



We developed a novel ELISA for oxytocin needing a small sample using simple pretreatment.

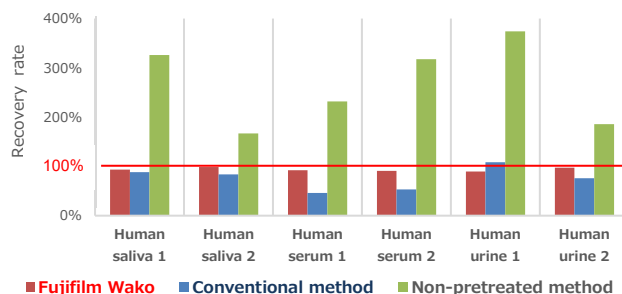
III. MATERIALS AND METHODS



Sample Volume	Assay Time
50 – 200 ul	~3 hrs.
250 - 3,000 ul	~30 hrs.

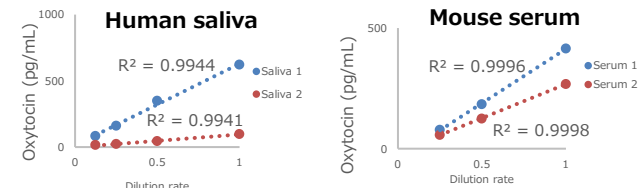
IV. RESULTS

1. Spiked-recovery test



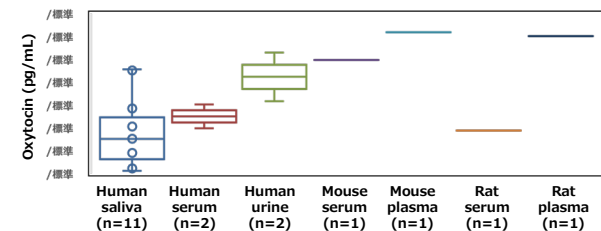
Our ELISA demonstrated an excellent recovery rate (near 100%) using human saliva, serum, and urine-spiked oxytocin. On the other hand, the conventional method shows a too-low recovery rate in the case of serum, and the non-pretreated method shows a too-high recovery rate in all samples.

2. Dilution linearity



Our ELISA demonstrated good dilution linearity using plasma, serum, urine, and saliva from human, and plasma and serum from mouse/rat. The data using human saliva and mouse serum are shown.

3. Example of measurement -healthy human / mouse / rat samples



V. CONCLUSION AND DISCUSSION

- We have developed a novel oxytocin ELISA method that can measure the small volume of various samples using a simple pretreatment method.
- Our method is expected to be a valuable tool for various oxytocin studies using models from humans, mice, and rats.

Oxytocin ELISA Kit



#292-84401 96 tests

For Research Use Only. Not for use in diagnostic procedures.

FUJIFILM Wako Chemicals USA • 1600 Bellwood Rd • Richmond, VA 23237 • wkuslabchem@fujifilm.com e-reagent.com