

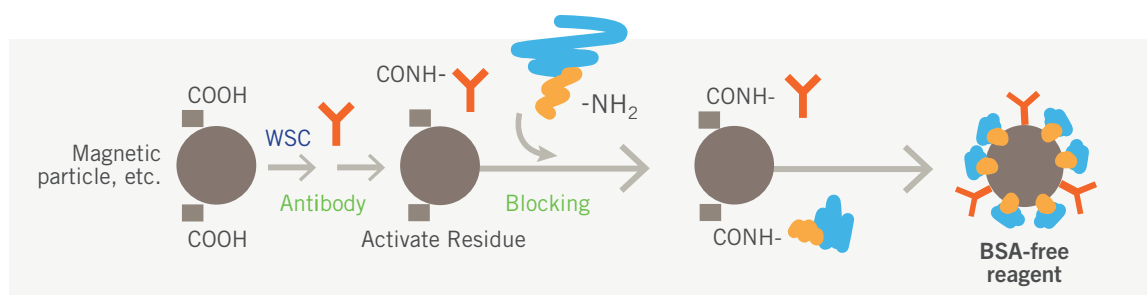
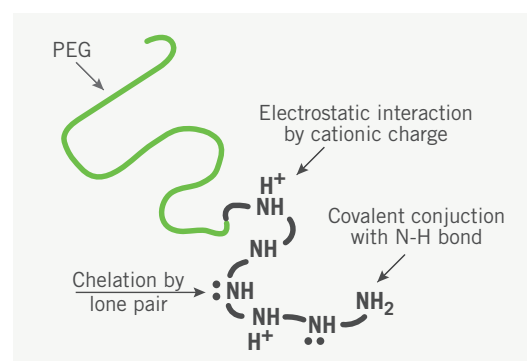


## FULLY CHEMICAL SYNTHESIZED BLOCKING REAGENT

Blockmaster™ CE510 and CE210 are fully synthetic, water soluble blocking reagents consisting of a hydrophilic PEG tail and multiple amine-end groups. While the PEG tail reduces the non-specific binding, the amine end-group allows for a covalent conjugation with amine reactive surfaces.

### Key Properties

- A unique composition consisting of a hydrophilic PEG-tail and multiple amine end-groups
- High durability by covalent coupling
- Low non-specific binding of proteins/cells
- Signal enhancement thanks to improved antibody orientation
- Improvement of beads dispersion



### Example Protocol For Covalent Coupling

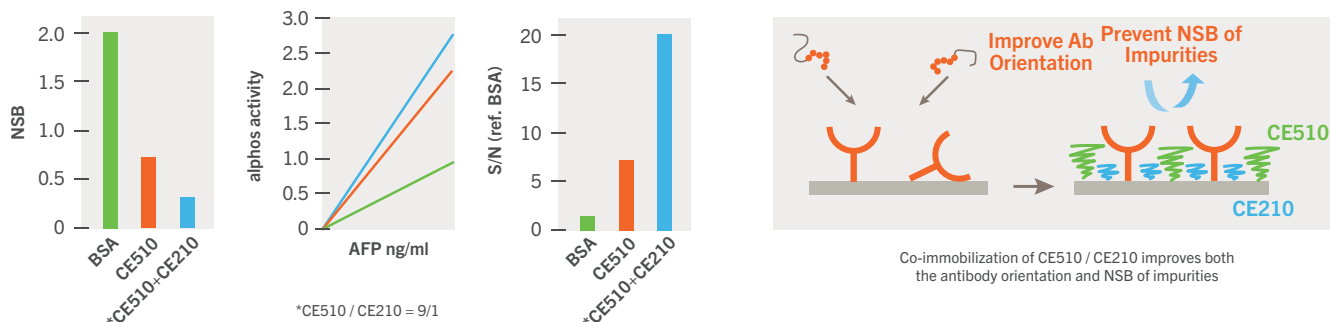
1. Magnetic beads 10 mg (1%, 1000  $\mu$ L or 10% 100  $\mu$ L) remove supernatant with magnet
2. Mix Magnetic beads and Binding Buffer\* 500  $\mu$ L to pre-wash (Suspend the beads by vortexing. Then, remove supernatant with magnet)
3. Mix Magnetic beads and Binding Buffer\* 900  $\mu$ L at 25°C
4. Add 1% EDC\*\* 100  $\mu$ L, mixing at 25°C for 30 min
5. Add antibody 10 mg/mL 100  $\mu$ L, mixing at 25°C for 1–3 hours
6. Add Blocking solution (2 wt% Blockmaster™ CE510) mixing at 25°C for 1–3 hours
7. Remove the supernatant by magnet
8. Add Washing Buffer 500  $\mu$ L, washing 4 times
9. Add desired Buffer, suspending the beads by vortexing
10. Store at 2–8°C

\* MES buffer (pH 5.0) is often chosen.

\*\* Prepared just before the coupling reaction.

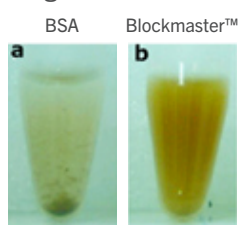
## Performance

### Prevention of Protein Adsorption / Signal Enhancement<sup>9</sup>



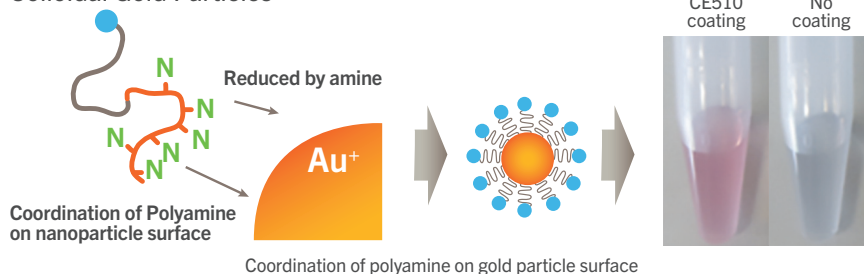
## Dispersion Stability

### Magnetic Beads<sup>9</sup>



Blockmaster™ coated magnetic beads show improved dispersion stability compared to those coated with BSA in cell lysate.

### Colloidal Gold Particles<sup>8</sup>



- Thangavel Lakshmi Priya, Makoto Fujimaki, Subash C.B. Gopinath, Koichi Awazu, Yukichi Horiguchi and Yukio Nagasaki, High-performance waveguide-mode biosensor for detection of Factor IX uses PEG-based blocking agents to suppress non-specific binding and improve sensitivity, *Analyst*, in press (DOI: 10.1039/C3AN00298E).
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