

## Product Datasheet



**Product:** Human PAI-1 NBD labeled at the reactive center loop

**Catalog Number:** IHPAI-P9NBD

**Lot Number:** SAMPLE

**Description:** P9-NBD PAI-1 was created by mutagenesis of the P9 serine residue (Ser338) on the reactive center loop to cysteine. This then provided a free thiol group for incorporation of N,N'-dimethyl-N-(acetyl)-N'-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) (NBD), a fluorescent probe highly sensitive to changes in solvation and hydrophobic environment. The fluorescence emission of P9-NBD PAI-1 is enhanced 6-7 fold upon insertion of the reactive center loop into beta-sheet A following complex formation with proteinases, formation of the latent species, or cleavage by elastase. The incorporated probe is excited at 480 nm and displays a broad emission spectrum with a peak centered 542 nm with a resultant blue-shift to 520 nm following reactive center loop insertion. The modified PAI-1 is nearly as active as wt PAI-1 and is more resistant to the spontaneous latency reaction making this an excellent tool for monitoring reaction rates of PAI-1 (1). P9-NBD PAI-1 has been utilized in a number of studies to determine the rates of loop insertion and SERPIN reaction mechanisms when reacted with various proteinases (1,2), inactivating antibodies (2) and conformational changes imposed by the binding of vitronectin (4).

### References:

1. Shore JD, et al.(1995) J Biol Chem 270:5395-5398.
2. Lawrence D, et al.(2000) J Biol Chem 275:5839-5844.
3. Verhamme IM, et al.(1999) J Biol Chem 274:17511-17517.
4. Gibson A, et al.(1997) J Biol Chem 272:5112-5121.

**Aliquot:** 1 x 0.5 mg

**Concentration:** 2.5 mg/ml

**Volume:** 0.2 ml

**Molecular Weight:** 43,000

**Buffer:** 0.05M Sodium Phosphate; 0.1M NaCl; 1mM EDTA; pH 6.6

**Storage:** -70 C; Protect from light

**Form:** Frozen liquid

**Source:** E. coli

For In Vitro laboratory use only

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