

Go Pro with proNGF; when only the best will do

ProNGF is now recognised as an important, biologically active protein, not just the precursor for mature NGF. ProNGF is found in various tissues of the body and is more abundant in the brain than mature NGF ([Belrose et al., 2014](#)). ProNGF plays a major role in a number of biological diseases, including the neuronal and cognitive dysfunction of Alzheimer's disease, where its activity is dependent on the levels of p75NTR and TrkA ([Lee et al., 2001](#); [Belrose et al., 2014](#); [Masoudi et al., 2009](#)).

But did you know that proNGF has been reported to be a leading biomarker associated with high-risk prostate, breast, thyroid and liver cancer? ([Demont et al., 2012](#); [Pundavela et al., 2014](#); [Faulkner et al., 2016](#); [Sherif and Al-Gayyar 2018](#)).

proNGF as a Novel Diagnostic Biomarker

[Pundavela et al., \(2014\)](#) have demonstrated in PC3 cells that proNGF is a key driver of nerve infiltration in prostate cancer. Other studies have shown that neurotrophic factors, such as proNGF play a major role in the interaction between nerve and cancer cells, highlighting the potential to target these biomarkers in research ([Jobling et al., 2016](#)).

The Biosensis human proNGF Rapid™ ELISA Kit ([BEK-2226](#)) is not only the most rapid and highly reproducible ELISA kit on the market, but is validated by in-house and independent researchers who confirm it is also the most sensitive and specific kit available as shown in **Table 1** below.

	BEK-2226 (Human)	BEK-2236 (Rodent)
Assay Time	≤ 4h	≤ 4h
Range	0.078 - 5 ng/mL	0.156 - 10 ng/mL
Sensitivity *LOD	30-60 pg/mL	50 pg/mL
Specificity	Human proNGF	Mouse & rat proNGF
Cross-reactivity	Does not cross react with mature NGF or proBDNF	Does not cross react with mature NGF or proBDNF
Samples Validated	Cell lysates & supernatants, human serum and heparin plasma	Cell lysates & supernatants, and rat brain lysates

*LOD = limit of detection

Internal validation as seen below demonstrates that proNGF can be detected in DU145 and PC3 cell lysates and in rat brain tissue (Table 2).

Table 2: Quantification of proNGF in rat brain, in the presence and absence of spiked mature NGF. This data demonstrates that the Biosensis Rapid™ mouse proNGF ELISA kit ([BEK-2236](#)) is specific for proNGF. (Data represents n=3).

With or without NGF Spike (+/-)	proNGF Conc. (ng/mL)	Mass of proNGF sample (ng)	proNGF (ng/g brain)	proNGF (ng/mg protein)
-	3.06	9.18	30.60	0.23
+	2.95	8.85	29.50	0.22

So why spend hours at the bench when you can generate reliable and reproducible data in under 4-hours with the Biosensis Rapid™ ELISA kits?