

Pro-GA

< Cell Permeable GGCT Inhibitor >

For more information : http://www.funakoshi.co.jp/exports_contents/81020

Pro-GA is a new, pro-drug type inhibitor of γ -Glutamylcyclotransferase (GGCT).

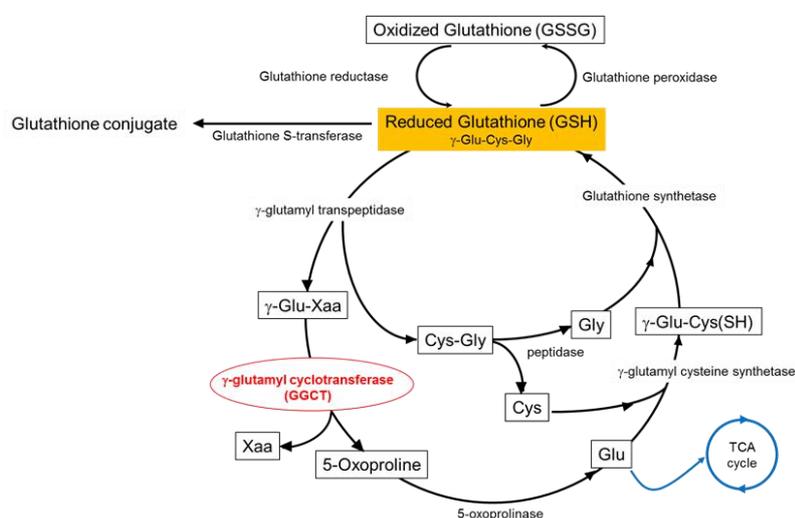
Background of Pro-GA

GGCT (γ -Glutamylcyclotransferase, C7orf24) is a glutathione homeostasis-related enzyme, which is highly expressed in cancer cells. While GGCT expression is in low level at normal cells, GGCT overexpressed cells dramatically increase its proliferation. Meanwhile, cell proliferation and migration are suppressed in GGCT KO cancer cells. This knowledge suggests that GGCT contributes to accelerate cell proliferation.

Existing GGCT inhibitors, such as *N*-glutaryl-*L*-alanine (GA), do not have cell membrane permeability, and cannot be used for cell culture and animal experiment.

Pro-GA is the world's first pro-drug type of GA, which penetrates into cells with inhibition activity to GGCT.

This product has been commercialized with the support of Kyoto Pharmaceutical University.



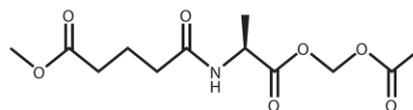
Overview of glutathione metabolic cycle

Features

- Pro-drug type of *N*-glutaryl-*L*-alanine (GA)
- High cell membrane permeability
- Transient inhibition of GGCT activity
- Specifically suppresses proliferation of cancer cells.
- Compatible to *in vitro* and *in vivo* use (not for human or veterinary use)

Chemical Information

- Molecular Formula: C₁₂H₁₉O₇N
- Chemical Structure: see below
- Molecular Weight: 289.28
- Solubility: Soluble in DMSO
- Purity: >99%

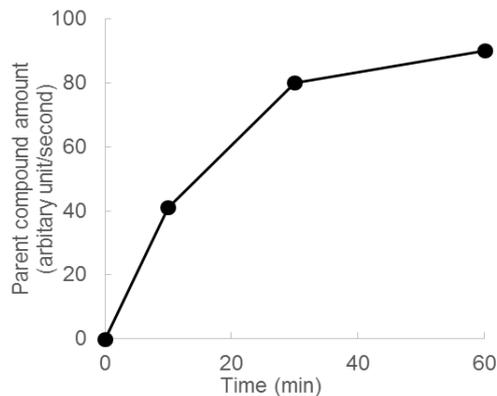
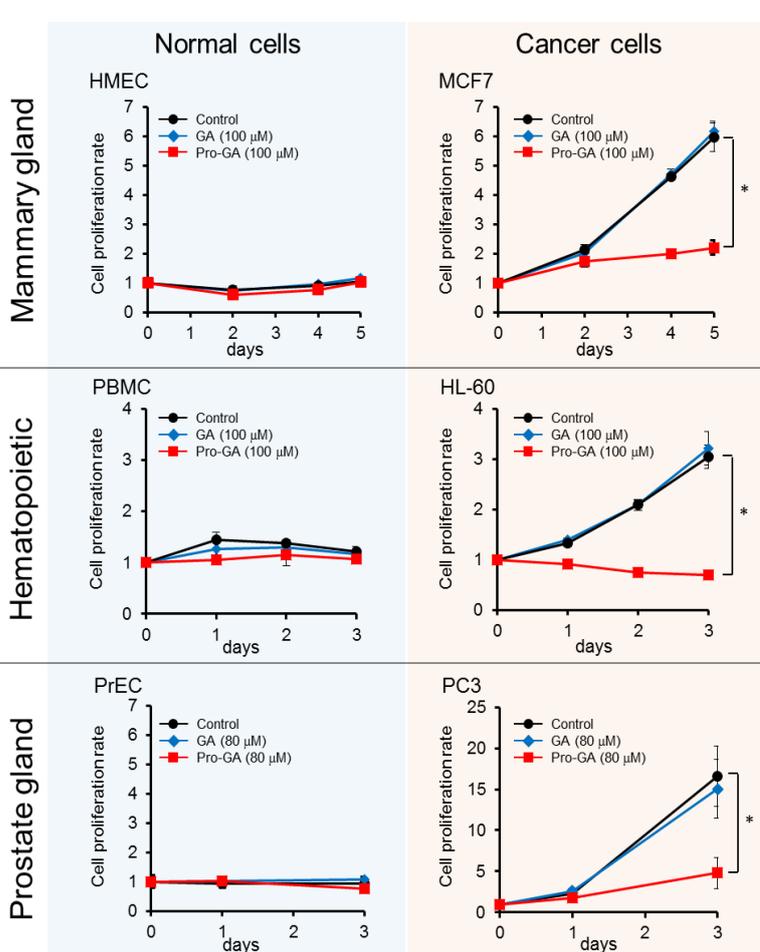
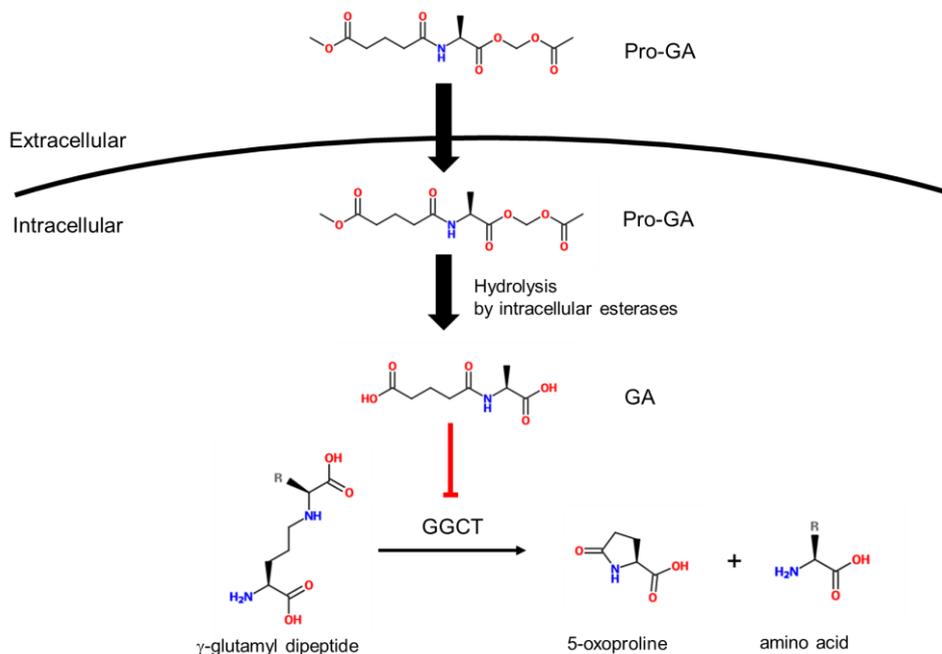


Product Information

[Manufacturer : FNA]

Product Name	Size	Catalog #	Storage
Pro-GA	2 mg	FDV-0019	-20 °C

Conversion in cell and Application Data of Pro-GA



▲ **Fig.1 GA-release efficiency of Pro-GA in cells**
MCF7 cells were treated with 100 μ M of fluorescent NBD-conjugated Pro-GA for 0-60 min. After washing, cell lysates were prepared and analyzed by HPLC to evaluate GA amount released from Pro-GA. NBD-conjugated Pro-GA was immediately incorporated into cells within a few minutes and converted to GA in the cells.

◀ **Fig.2 Inhibition of proliferation in cancer cells**
Cells were cultured in serum starve condition with DMSO (as control), GA or Pro-GA for the indicated days. Cell proliferation was measured by WST cell viability assay. Pro-GA specifically suppressed proliferation of cancer cells.

NOTE

※ All products here are research use only, not for diagnostic use.
※ Specs might be changed for improvement without notice.

※ Company name and product name are trademark or registered mark.
※ Please contact your local distributors for orders, quote request and inquiry.

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