

DEHYDROGLAUCINE

Anticancer activity and apoptosis in cervical cancer cell models

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BACKGROUND & AIM

Aporphine alkaloids are being investigated for antitumor effects. Dehydroglaucine (FA-DM-13-1) was prepared from glaucine and evaluated for growth inhibition and apoptosis in cultured cells.

METHODS

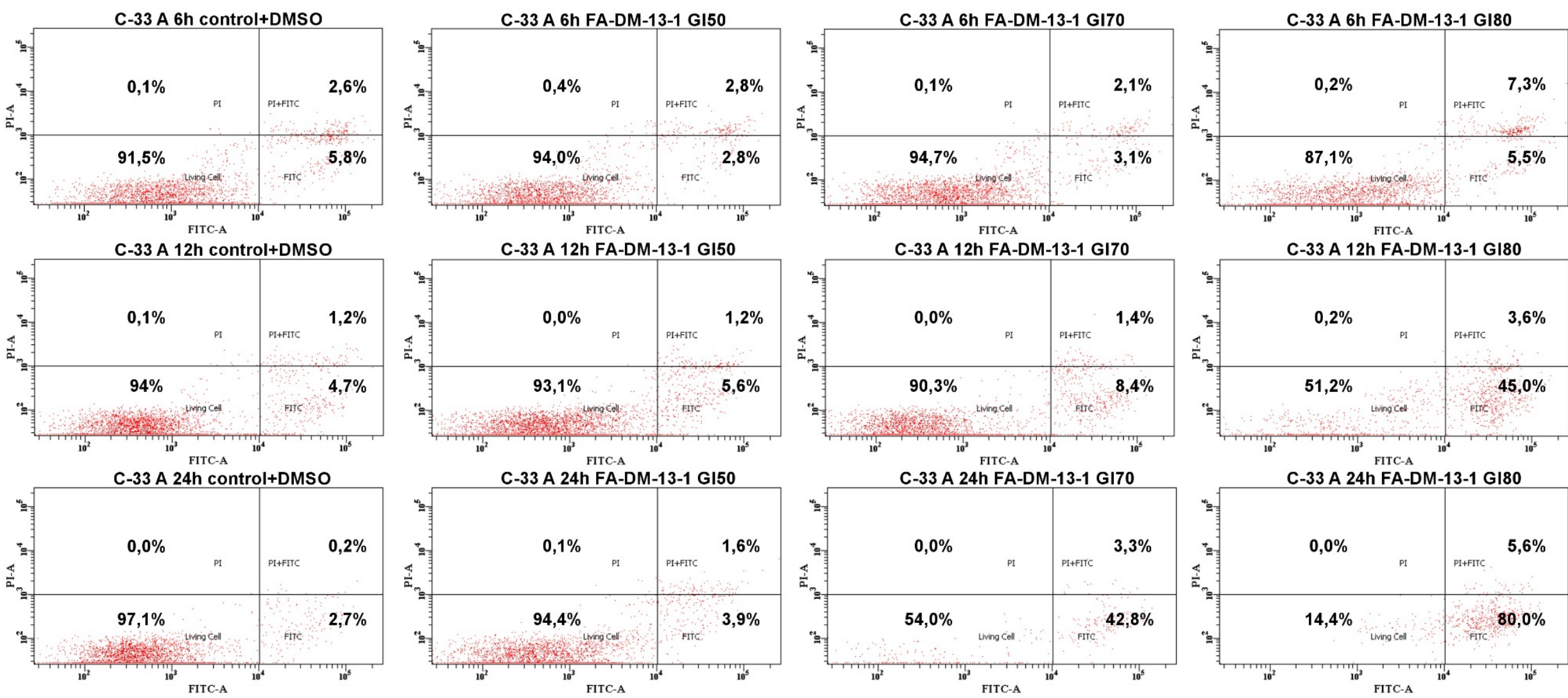
- MTT assay: growth inhibition across eight cell lines.
- Flow cytometry: Annexin V-FITC/PI and DNA content in C-33A cells.
- RT-PCR: apoptosis-related gene expression in C-33A at 6, 12 and 24 h.

GROWTH INHIBITION

Cell line	Context	GI50 (μM)
C-33A	HPV-negative	3.5 ± 0.87
CaSki	HPV-16	30 ± 1
HeLa	HPV-18	30 ± 3
MCF-7	Breast	39 ± 2
DU-145	Prostate	31 ± 0.81
VERO	Non-malignant	55 ± 1.77
SNB-19	Glioblastoma	35 ± 0.7
T98G	Glioblastoma	50 ± 6.5

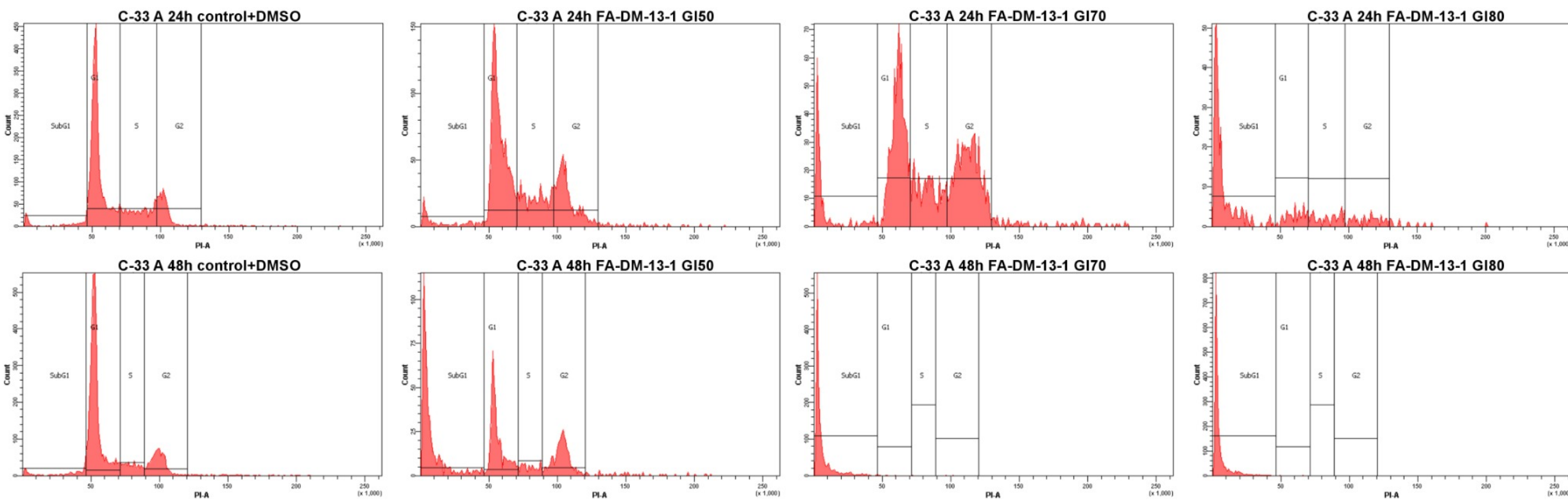
C-33A showed the lowest GI50. The ratio of mean GI50 values for VERO versus C-33A was approximately 15.7.

ANNEXIN V / PI FLOW CYTOMETRY



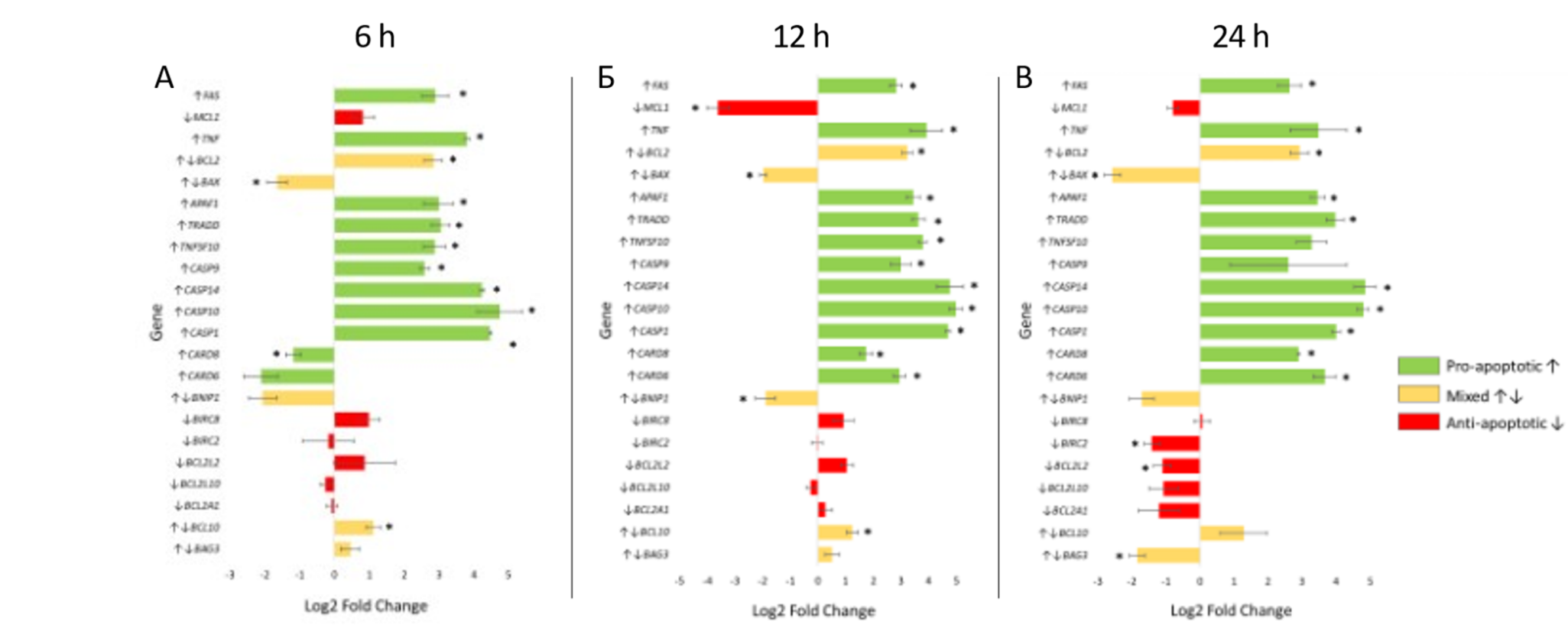
C-33A, 24 h: the Annexin V+ / PI– quadrant was 80.0% at GI80 versus 2.7% in the DMSO control. The response increased with exposure and concentration.

DNA CONTENT



A prominent sub-G1 signal developed with stronger and longer exposure. The supplied abstract also reports effects in the S/G2 phases.

GENE EXPRESSION



RT-PCR in C-33A showed increased expression of CASP1, CASP10, CASP14, TRADD, FAS and TNF, with decreased BAG3, BCL2L2 and BIRC2 relative to control.

INTERPRETATION

Together, growth inhibition, flow cytometry and expression data support a pro-apoptotic effect of dehydroglaucine in vitro. Further preclinical work should assess mechanism, selectivity and safety.

STUDY DETAILS

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