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**Biomedical Research**

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[\[PDF \(374K\)\]](#) [\[References\]](#)**Effect of laughter on salivary endocrinological stress marker chromogranin A**Masahiro TODA<sup>1)</sup>, Shinsuke KUSAKABE<sup>1)</sup>, Shingo NAGASAWA<sup>2)</sup>, Kazuyuki KITAMURA<sup>2)</sup> and Kanehisa MORIMOTO<sup>1)</sup>

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**ABSTRACT**

We investigated the effect of laughter on salivary endocrinological stress marker chromogranin A (CgA). In saliva samples collected from 11 healthy males before and after watching a comic film or a non-humorous control film, salivary CgA levels were determined by enzyme-linked immunosorbent assay (ELISA). Samples taken after watching the comic film showed increased levels of CgA. This tendency was more pronounced in individuals with lower initial levels of stress. The control samples showed no significant change in CgA levels. Stress score, subjectively evaluated using a visual analog scale, decreased significantly after watching the comic film. These findings suggest that, in addition to a stress relief effect, laughter can bring about feeling uplifted or fulfilled.

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